THE Journal

OF THE AMERICAN DENTAL ASSOCIATION

AUGUST

1956

CONTENTS

Preparation of abutments for veneer retainers—Willey.....141
Mouth rehabilitation and lactobacilli counts—Shklair.....155
Uptake of tin and fluoride by intact enamel—Brudevold.....159
Anatomic lines of maxillary sinus in roentgenogram—Peterson.....165
Principles of resuscitation in dental office—Sadove.....168
Editorials.....236

PRELIMINARY PROGRAM

Official call.....179
Directory.....180
Essay program.....187
Clinics.....195
Scientific exhibits.....208
Motion pictures.....211
Technical exhibitors.....214
Meetings.....216
Social events.....221
Members of House of Delegates.....222

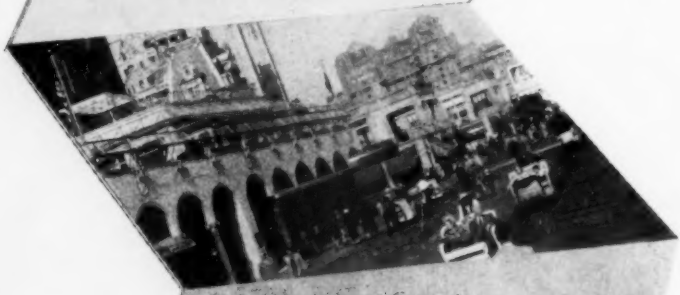
NINETY-SEVENTH ANNUAL SESSION

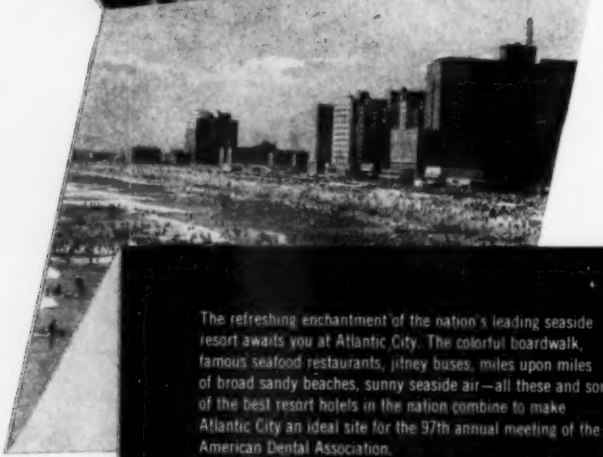
VOLUME 53

NUMBER 2

ATLANTIC CITY • OCTOBER 1-4

Sunshine and salt air
await you in Atlantic City at
the A. D. A.'s 97th annual session
October 1-4, 1956





The refreshing enchantment of the nation's leading seaside resort awaits you at Atlantic City. The colorful boardwalk, famous seafood restaurants, jitney buses, miles upon miles of broad sandy beaches, sunny seaside air—all these and some of the best resort hotels in the nation combine to make Atlantic City an ideal site for the 97th annual meeting of the American Dental Association.

The dates of October 1 through 4 assure you of beautiful autumn weather. The world's largest convention hall has been reserved for an outstanding scientific program of essays, clinics and exhibits. All in all, it promises to be one of the most exciting meetings in many years. There are plenty of first class hotel rooms awaiting you. **Make reservations now!**

Use official application forms in The A.D.A. Journal.

The Journal of the American Dental Association is published monthly by the American Dental Association at 222 E. Superior St., Chicago 11, Ill. Printed in U.S.A. Second class mail privileges authorized at Chicago, Ill. Subscription $7.00 a year in U.S.A.; $8.00 foreign. Issue of August, 1956, Vol. 53, No. 2. Copyright 1956 by the American Dental Association.

WORKHORSE...

of Inlay Golds!

MODULAY

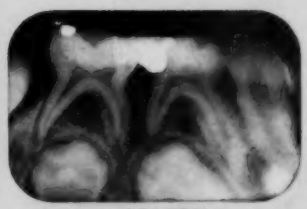
For those countless routine M.O.D. and Simple Inlays, "MODULAY" never fails.

Certified A.D.A. Type II Medium Hard — Gold Color per dwt. $2.15

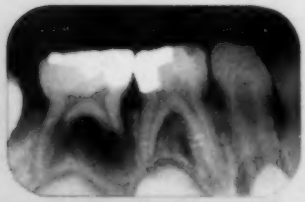
SCIENTIFICALLY SAFE J. F. JELENKO & CO. FOR STRUCTURAL STRENGTH

J. F. Jelenko & Co., Inc.

136 West 52nd Street • New York 19, U. S. A.

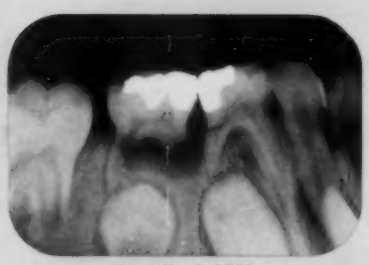


April 26, 1951



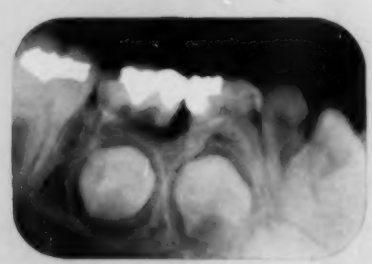
September 6, 1951

Dental radiographs, child patient: April 26, 1951 to April 26, 1955.



November 6, 1951

April 16, 1952

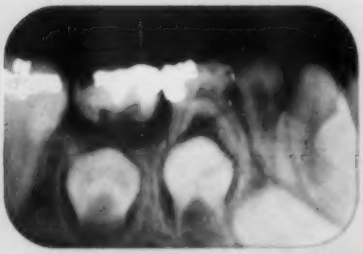


November 13, 1952

Step by Step... *the condition*

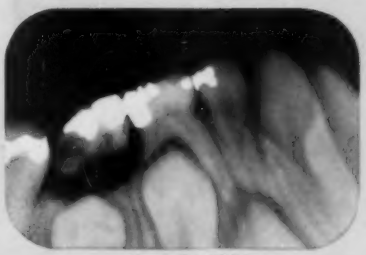
Changes in shape, size and structure of the growing child's teeth suggest frequent changes in dental treatment. Serial radiographs of these changes are of great value in case control. However, to record and evaluate each changing condition properly, the radiographs must be uniform in character, constant in value.

INTEREST your patients in preventive dentistry. Get first 50 copies of "How to Prevent Toothache," by Howard R. Raper, D.D.S., without cost. Additional copies, $1 per 100. Offer your patients this revised 14-page booklet.



May 9, 1953

September 15, 1953



March 25, 1954

October 21, 1954

April 26, 1955

and treatment of a child's teeth...

Because uniformity is so important, always specify Kodak x-ray materials—*made to work together—always uniform, package after package, year after year.*

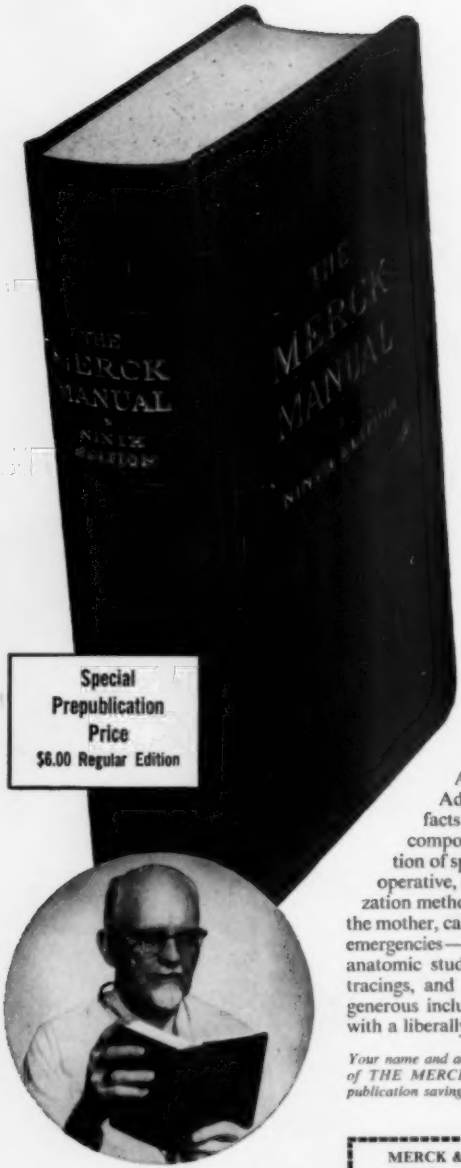
For complete dependability...

Use Kodak Dental X-ray Film

Process in Kodak Dental X-ray Chemicals

EASTMAN KODAK COMPANY
***X-ray Division*, Rochester 4, N. Y.**

Kodak
TRADEMARK



Special Prepublication Price
$6.00 Regular Edition

You are invited to reserve a copy of the new and enlarged Ninth Edition of

THE MERCK MANUAL

OF DIAGNOSIS AND THERAPY

at a prepublication saving

A new and up-to-date edition of the world-famous medical reference handbook

The new *NINTH* Edition of THE MERCK MANUAL, now on press, marks another great advance in usefulness of this handbook. Rapid changes in medicine and pharmacy have necessitated a new edition hundreds of pages longer, but actually *reduced* in thickness through use of a very fine, strong Bible paper. An increased number of illustrations supplement the text.

OUTSTANDING FEATURES OF THE NEW NINTH EDITION

A completely new chapter of detailed information on Adrenocortical and Related Therapy—up-to-the-minute facts on antibiotics, "tranquilizing" drugs, antituberculosis compounds and other vital therapeutic advances—description of special procedures: Bedside, Clinical, Preoperative, Postoperative, and Office Laboratory—latest information on immunization methods and schedules, *Rh* factor, pre- and postnatal care of the mother, care of the premature infant—special sections on medical emergencies—clear, simple illustrations showing key clinical technics, anatomic studies and relationships, representative ECG and EEG tracings, and a schematic diagram of the pituitary-adrenal axis—generous inclusion of ready reference values and conversion data—with a liberally cross-titled index—*all copies thumb-indexed.*

Your name and address on the coupon below will bring you the new NINTH Edition of THE MERCK MANUAL as soon as it comes off the press, at a special prepublication saving of 75 cents, effective until September 1, 1956.

• more than 1,800 pages, fully indexed and thumb-indexed • 378 chapters • 20 main sections • strong, extra-thin Bible paper • pocket size, round corners • more than 1,600 prescriptions • Fabrikoid cover resistant to water, acid and mildew.

MERCK & CO., INC.
Rahway, N. J., U. S. A.

MERCK & CO., INC., Rahway, N.J., U.S.A. Dept. D-8

RESERVE A COPY for me of the new *NINTH* Edition of THE MERCK MANUAL OF DIAGNOSIS AND THERAPY. Send it on publication in the Fall of 1956, with a bill for $6.00 plus a 40¢ handling charge. I will pay for the book or return it at *your* expense in 30 days after receipt.*

PREPUBLICATION OFFER EXPIRES SEPTEMBER 1, 1956
(After that date the price is 75¢ more)

*Save Handling Charge: Remittance enclosed. Send book prepaid. Same privilege of return and refund.

Name_____

Street_____

City_____ State_____

Pacesetter for Progress

3 outstanding new features...

1. New, Exclusive FLUIDAIR Cooling System ... increases patient tolerance during cavity preparation ... ideal for tooth reduction at high speeds. Dual selector switches permit use of air and water in combination, or separately, right at the handpiece. Water flows automatically when foot controller is engaged. Air flow is continuous for drying and chip blowing.

2. All New Engine Arm... Gives a new high in operating convenience. Trim enclosed arm is lightweight, yet ruggedly built. A feather light touch raises or lowers arm, which is fully counterbalanced by engine.

3. New, More Powerful Engine... Permits handpiece speed range from 800 to 100,000 or more RPM for use of latest high speed techniques. New engine has ample power for complete flexibility ... up to 32 speed selections.

See the new Century Unit at your Ritter dealer's now ... or call or write for further information.

Ritter Company Inc.

1020 RITTER PARK • ROCHESTER 3, N. Y.

To Keep Abreast is to Stay Ahead!

REVIEW of DENTISTRY

This revision contains many changes. A number of the chapters have been completely rewritten. Many questions have been deleted and others added to bring the subject matter up to date and to cover the subjects as thoroughly as possible. It is a useful guide for those preparing for state and national board examinations, for a general review for the undergraduate dental students, and for a study-reference for the busy dentists. This edition contains between 7,500 and 8,000 questions and answers —a substantial increase over the previous edition.

By JAMES T. GINN. 2nd Ed. 997 pages. Price, $8.00.

PRACTICAL ORTHODONTICS

This is a foundation book—one that covers the sound principles of orthodontics giving the reader material on occlusion, extraction, the approach to treatment, methods and aids to treatment, along with mechanistic procedures for orthodontic problems. By GEORGE M. ANDERSON. 8th Ed. 702 pages, 719 illustrations. $17.50.

PARTIAL DENTURES

This book is presented as a tangible plan for teaching the construction of a partial denture, utilizing a one-piece casting. More than 400 illustrations, many of them step-by-step, make the book a most practical one. By MERRILL G. SWENSON and LOUIS G. TERKLA. 421 pages, 423 illustrations, 6 in color. $12.00.

M O S B Y

PERIODONTAL THERAPY

This book is for the clinician. The standard methods have been described and illustrated. In addition, however, even more attention has been paid to the variation from the standard. The drawings are for the most part renderings of actual clinical situations. In some cases drawings were used to supply the step-by-step method between preoperative and post-operative photographs. In all cases they represent realistic clinical entities.

By HENRY M. GOLDMAN, SAUL SCHLUGER, and LEWIS FOX. 565 pages, 190 text illustrations and 100 plates. Price, $18.75.

BONE AND BONES

This book is of particular interest to Orthodontists, covering as it does the development of bone through all of its stages. By JOSEPH P. WEINMANN and HARRY SICHER. 2nd Ed. 508 pages, 302 illustrations. $13.75.

ATLAS OF CLINICAL PATHOLOGY OF THE ORAL MUCOUS MEMBRANE

This book uses a profusion of color to aid the practitioner in making a diagnosis of common conditions that he encounters daily in the oral cavity—with treatment for each condition fully explained. By BALINT J. ORBAN and FRANK M. WENTZ. 135 pages (8½" x 11"). 72 illustrations in color, 142 black and white illustrations, 14 charts. $12.50.

THE C. V. MOSBY COMPANY,
3207 Washington Blvd.
St. Louis 3, Missouri

Date.....

Gentlemen: Send me the book(s) checked with (X). ☐ Attached is my check. ☐ Charge my account.

- ☐ Ginn REVIEW OF DENTISTRY...$ 8.00
- ☐ Anderson PRACTICAL ORTHODONTICS 17.50
- ☐ Orban-Wentz ATLAS of CLINICAL PATHOLOGY of ORAL MUCOUS MEMBRANE 12.50
- ☐ Goldman-Schluger-Fox PERIODONTAL THERAPY.....$18.75
- ☐ Weinmann-Sicher BONE and BONES..... 13.75
- ☐ Swenson-Terkla PARTIAL DENTURES..... 12.00

Dr..... Street.....

City..... Zone..... State.....

ADA-8-56

NOBILIUM Quality is Evident from the Moment You Receive the Case

. . . . ACCEPT NO SUBSTITUTE!

There is no substitute for Quality, hence no substitute for Nobilium restorations. By specifying Nobilium you are assuring your patients of every quality that is best for their natural appearance, oral comfort, masticating efficiency, distinct enunciation, oral cleanliness and peace of mind.

By accepting no substitutes, you take no chances with success and satisfaction, you protect against uncertainties and disappointments. To prescribe Nobilium is to prescribe processing with the "Aristocrat of Chromium Alloys," precision casting, electrolytic polishing, and ALL of the other scientific assurances resulting from Nobilium research. Safeguard your skill and enhance your professional reputation by asking your preferred laboratory for Nobilium service.

NOBILIUM PRODUCTS, INC.

Chicago Philadelphia Los Angeles

NOBILIUM of MIAMI, Miami NOBILIUM of TEXAS, Houston

NOBILIUM of SAN FRANCISCO, San Francisco

NOBILIUM PRODUCTS of CANADA, LTD. Toronto NOBILIUM of EUROPE A. B. Stockholm

Export Department of Nobilium Products, Inc.
2255 Broadway, New York 24, N. Y.

Enriched Bread...

a Recognized Factor in the Improved Nutritional Status of America's School Children

ENRICHED BREAD (90 per cent of all white bread commercially sold in the United States) has participated prominently in the virtual eradication of classical deficiency diseases during recent years.[1,2] It has been credited with being one of the important factors in bringing about the improved status of nutritional child health.[3]

Virtually all such bread—by vitamin and mineral enrichment and by the use of non-fat milk solids averaging 4 per cent by weight of the flour used—supplies valuable amounts of thiamine, riboflavin, niacin, iron, and calcium. Its protein (39 grams per pound), composed of flour, milk, and yeast proteins, is of good biologic value, supporting growth as well as tissue maintenance.[4]

The nutrient contribution of enriched bread is shown in the appended table.

In a joint report of the Council on Dental Health and the Council on Dental Therapeutics[5] it is stated: "Available evidence indicates that starchy carbohydrates are of minor importance in the process of caries since complex carbohydrates cannot diffuse into bacterial plaques and cannot be degraded promptly to simple sugars in most mouths."

The American Dental Association states: "Good nutrition is important for growth and development. Diet affects dental health to a greater degree during the early years (before the age of 8) than at any other time. Therefore, an adequate diet is needed, particularly during the growing and developing years."[6]

Since enriched bread makes an important contribution to good nutrition, and apparently is of little cariogenic influence, it may well constitute a significant portion of the daily caloric intake.

---

1. Sebrell, W. H., Jr.: Trends and Needs in Nutrition, J.A.M.A. *152*:42 (May 2) 1953.
2. King, C. G.: Newer Concepts of Optimum Nutrition, Food Technol. *8*:486 (Nov.) 1954.
3. Kelly, H. T.: Impact of Modern Nutrition on Twentieth Century Morbidity, Pennsylvania M.J. *58*:481 (May) 1955.
4. Sherman, H. C.: Chemistry of Food and Nutrition, ed. 8, New York, The Macmillan Company, 1952, p. 212.
5. Joint Report of the Council on Dental Health and the Council on Dental Therapeutics of the American Dental Association: Sugar and Dental Caries: The Effect on the Teeth of Sweetened Beverages and Other Sugar-Containing Substances, J. Am. Dent. A. *47*:387 (Oct.) 1953.
6. "The Care of Children's Teeth," in Questions and Answers, 1954, American Dental Association, p. 14.

Nutrients and Calories Provided by 6 Slices of Enriched Bread and Their Percentages of Daily Dietary Allowances*

Nutrients and Calories 6 Slices		Percentages of Daily Allowances			
		Children (ages, 4 to 6 years)	Boys (ages, 13 to 15 years)	Men (age, 25 years)	Women (age, 25 years)
Protein	11.7 Gm.	23%	14%	18%	21%
Thiamine	0.33 mg.	41	21	21	28
Riboflavin	0.21 mg.	18	10	13	15
Niacin	3.0 mg.	38	19	19	25
Calcium	122 mg.	12	9	15	15
Iron	3.3 mg.	41	22	28	28
Calories	379	24	12	11	16

*National Research Council's recommended daily dietary allowances (1953): Children (ages, 4 to 6 years); weight, 40 lbs.; height, 48 inches. Boys (ages, 13 to 15 years); weight, 108 lbs.; height, 64 inches. Men (age, 25 years); weight, 143 lbs.; height, 67 inches. Women (age, 25 years); weight, 121 lbs.; height, 62 inches.

AMERICAN BAKERS ASSOCIATION
20 North Wacker Drive • Chicago 6, Illinois

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

NEW — JUST PUBLISHED!

KAZIS and KAZIS— Complete Mouth Rehabilitation Through Crown and Bridge Prosthodontics

By HARRY KAZIS, D.M.D.

Postgraduate Lecturer and Clinician, Former Visiting Lecturer at School of Dental Medicine, Tufts University, Boston, Massachusetts; Charter Member of the American Academy of Crown and Bridge Prosthodontics

and ALBERT J. KAZIS, D.M.D.

Visiting Instructor in Prosthetic Dentistry (Crown and Bridge), School of Dental Medicine, Tufts University, Boston, Massachusetts

This is a sound working text based on the technics and procedures the authors employ in practice, on their scientific studies, and on continuing research. The theoretical concepts basic to complete mouth rehabilitation are presented first. This is followed by methods and technics used in diagnosis, treatment planning and treatment. Twenty-five case reports are typical of the mutilated bite anomaly cases which may be encountered in practice. The final section is devoted to operative and technical considerations in crown and bridge prosthodontics, with emphasis on anesthetic, operative and technical procedures. There is a detailed picture story of the procedures involved in an extensive mouth rehabilitation case; and a pictorial descriptive technic for the construction of a movable-removable precision attachment partial denture. Dental practitioners and students will find this new book to be a sound and helpful guide.

New. 392 Pages. 551 Illustrations on 332 Figures. $15.00

LEA & FEBIGER WASHINGTON SQUARE PHILADELPHIA 6, PA.

Please enter my order and send me:

☐ Kazis & Kazis—Mouth Rehabilitation.....$15.00

☐ Check enclosed ☐ Bill me

☐ Charge my account

DR. .....

ADDRESS .....

CITY..... ZONE.... STATE.....

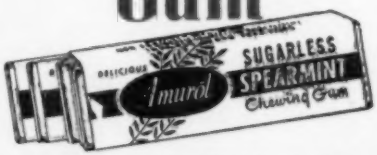
JI. A.D.A. 9-56

for caries-active patients *prescribe*

Amurol

NON-CARIOGENIC

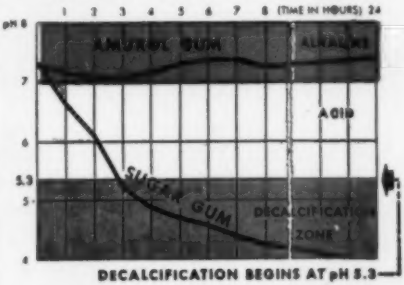
Sugarless Gum



Sold through drug, department and health food stores. Samples and literature on request. Please give druggist's name, address.

AMUROL PRODUCTS COMPANY
116 S. MICHIGAN AVE., CHICAGO 3, ILL.

Comparative *in vitro* Effects of Sugar Gum and Amurol Gum added to Saliva



As shown above, pH of caries-active saliva *in vitro* remains in alkaline zone for hours with AMUROL SUGARLESS GUM, whereas with sugar gum the pH drops to the acid level under the same conditions.

S. S. WHITE MOTOR CHAIR

helps your patients co-operate

Styled by Henry Dreyfuss, one of America's Foremost designers

Widely recognized as the finest dental chair ever built. Seat holds the patient in the most convenient position for operating. Self-adjusting headrest and backrest provide compensating movement. Internal mechanism permits lowest operating position and greatest elevating range. Simplified controls are conveniently and unobtrusively positioned. See and test this exceptional chair at your dental dealer's showroom.

THE S. S. WHITE DENTAL MFG. CO.

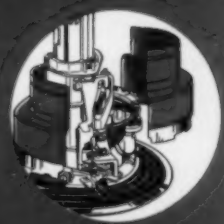
Philadelphia 5, Pa.

comfortable
compact
convenient

Motor pump and elevating mechanism are integral part of chair's design and are completely concealed.

Anatomical contour of chair seat prevents forward slipping and holds patient in best position for operating.

Headrest and backrest slides held by friction locks operated by telescoping latches contoured for easy grasp.



Base covers are removable and come apart in halves to give ready access to internal mechanism.

Headrest support designed for easy operation, wide adjustment range and patient comfort in all positions.

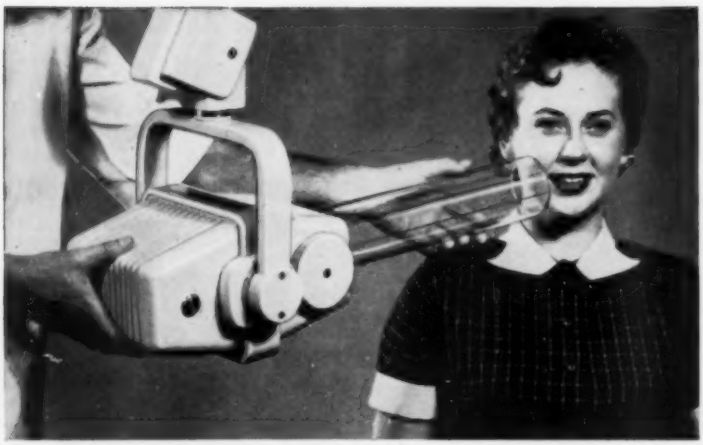
MERCK SHARP & DOHME

DIVISION OF MERCK & CO., INC.

In name
as well as
in fact

On August 1, 1956, Sharp & Dohme, the pharmaceutical and biological division of Merck & Co., Inc., adopts the name "Merck Sharp & Dohme" and a new trademark to reflect the teamwork which has already produced significant new medical products. • Developing modern medical products and making them widely available requires teamwork of the highest order in research, production, and distribution. The desire to achieve this unity of effort prompted the merger of Merck & Co., Inc., and Sharp & Dohme, Inc., three years ago. • Merck Sharp & Dohme—combining in name as well as in fact the traditions and experience of two time-honored leaders in the medicinal field—offers bright promise for further advances in helping conquer disease.

MERCK SHARP & DOHME
Pharmaceuticals • Biologicals
Division of Merck & Co., Inc.
Philadelphia 1, Pa.



Your skill is mirrored

in a powerful G-E x-ray unit

GE-70
Fixed x-ray output — 10 ma at 70 kvp.

GE-90
For any kilovoltage 40 to 90 kvp.

YOU know your patient's confidence in you is compounded of many impressions. Your skill and manner are key factors, of course. But important, too, is equipment that reflects your competence . . . helps you do your work quickly, efficiently, safely.

Powerful in appearance . . . powerful in fact — G-E dental x-ray units have *that look* and more. The GE-90, for example, gives you high-output, stepless, variable x-ray control. It shortens exposure times, improves film quality, gives more uniform penetration of all dental structures — makes practical long-distance technics for better radiography. And it also offers you a new measure of safety through inherent filtration equaling 1.5 mm al — a new safety factor now specified by the National Bureau of Standards.

See your dealer for details. Or write X-Ray Department, General Electric Company, Milwaukee 1, Wisconsin, for Dept. JJ-83.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Comparison between Xylocaine and procaine †
ONSET
EXTENT AND DEPTH
% GRADE A ANESTHESIA
XYLOCAINE
PROCAINE
Council Acceptance is your assurance of High professional standards.
XYLOCAINE® 2% HYDROCHLORIDE
(Brand of Lidocaine Hydrochloride)
AN AQUEOUS SOLUTION
WITH EPINEPHRINE 1:50,000
ASTRA
PHARMACEUTICAL PRODUCTS, INC.
Worcester, Mass.
†Huldt, S., "Factors Influencing the Efficiency of Dental Local Anesthetics in Man.", Acta Odontologica Scandinavica, Volume 11, Supplement 13, 1953.
Xylocaine® HCl
(Brand of lidocaine* HCl) ASTRA
a name to remember
when anesthesia must be
FAST • DEEP • SAFE • CERTAIN
*U. S. Pat. No. 2,441,498
Can. Pat. No. 503,645
ASTRA PHARMACEUTICAL PRODUCTS, INC.
Neponset St., Worcester, Mass., U.S.A.
Also made and sold in Canada by
Astra Pharmaceuticals (Canada) Ltd., Toronto, Ont., Canada
Write for professional samples and descriptive literature

For convenient,
effective
antibiotic therapy

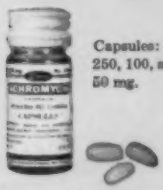
ACHROMYCIN*

TETRACYCLINE

CAPSULES

Patients, universally, prefer to take medicine orally rather than by injection. ACHROMYCIN Capsules provide a potent antibiotic in this patient-accepted form.

ACHROMYCIN Capsules are indicated as an adjunct to accepted dental techniques in extractions and surgery, and in the treatment of Vincent's infection and bacterial components of gingivitis. On your prescription, patients may secure ACHROMYCIN Capsules from any pharmacy. Available to you from your usual source of supply.



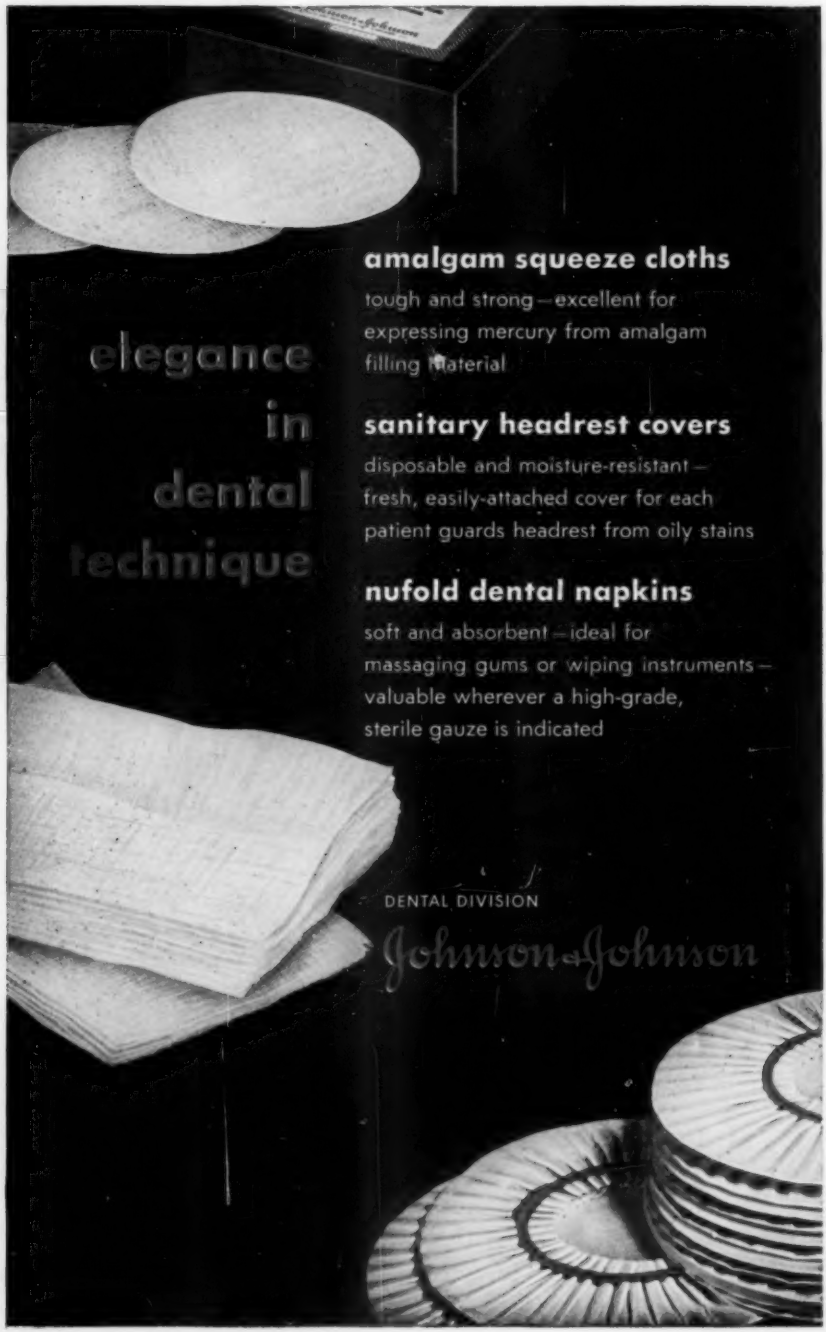
Capsules: 250, 100, and 50 mg.

FREE. For your convenience in prescribing, Lederle has prepared prescription pads. Write for yours.

AN AID TO, NOT A SUBSTITUTE FOR, GOOD DENTISTRY

Lederle LEDERLE LABORATORIES DIVISION AMERICAN CYANAMID COMPANY PEARL RIVER, N.Y.

*REG. U.S. PAT. OFF.


elegance
in
dental
technique
amalgam squeeze cloths
tough and strong—excellent for
expressing mercury from amalgam
filling material
sanitary headrest covers
disposable and moisture-resistant—
fresh, easily-attached cover for each
patient guards headrest from oily stains
nufold dental napkins
soft and absorbent—ideal for
massaging gums or wiping instruments—
valuable wherever a high-grade,
sterile gauze is indicated
DENTAL DIVISION
Johnson & Johnson

AUGUST 1956 THE Journal OF THE AMERICAN DENTAL ASSOCIATION VOLUME 53 • NUMBER 2

The preparation of abutments for veneer retainers

Robert E. Willey, D.D.S., Los Angeles

It has been said, and rightfully, that operative dentistry of the highest quality is more easily attained today than ever before. The proper use of high-speed revolving diamond and carbide instruments, improved control of wax in pattern making, accurate impression technics, controlled casting methods, together with a more thorough understanding of the biomechanical principles involved in the preparation of teeth, are factors enabling the average practitioner to provide a service of excellent standard. It is not necessary to search very long, nor survey the field very diligently, however, to realize that there is still a great need for re-emphasizing the principles which make for greater service and durability, particularly in the field of fixed and removable prosthodontic restorations. This paper will deal with these principles insofar as they are applicable to the preparation of teeth which are to serve as abutments for these two classes of appliances. Obviously, whatever the method selected to reproduce the prepared tooth, certain basic principles of design must be applied to insure the ultimate success of the finished restoration.

The veneer type of retainer (Fig. 1) has proved to be by far the most reliable method of attachment to a tooth. This conclusion has been reached after years of observing the successes and failures of fixed and removable types of bridgework. Over the years the veneer retainer has shown itself to be so well qualified to withstand heavy functional stresses that fixed bridges so supported are considered comparable to any other dental restoration.

From the standpoint of biomechanical engineering, the veneer retainer is fundamentally correct. The term "veneer," used in preference to "crown," implies the overlaying of the coronal portion of the tooth with a thin layer of gold alloy, the stability of which is obtained by the frictional retentiveness of slightly convergent walls and grooves. The veneer is primarily a surface covering of a part or

Professor of fixed prosthodontics, University of Southern California School of Dentistry.

all of the entire crown. If the preparation for the veneer is made essentially within the enamel of the tooth, the hazards to the pulp attendant on the operation to the tooth are greatly minimized.

The domelike form of metal, augmented by the trusslike support of the grooves, comprises a mechanical design highly capable of resisting distortion. Forces directed against these veneers tend to seat them more firmly on their preparations. The veneer also ties the structural elements of the crown more tightly together, and thus eliminates the possibility of fractured enamel walls or cusps. Veneers should always be designed with this important consideration in mind.

In most instances the demands of esthetics may be adequately met, even though a considerable portion of the crown may be covered with metal. Proper design and minimal marginal extension can fulfill esthetic requirements under ordinary conditions of speaking, laughing or smiling.

In practically all teeth carrying a partial veneer, the entire functioning surface, incisal or occlusal, is covered. By the use of long bevels, the margins are carried out beyond the facets of wear, to achieve three definite ends (Fig. 2). First, grinding or wear is never allowed to exert destructive force on the margin between metal and tooth. Secondly, the sweep of food over this margin during function is similar to the shedding of water by a shingle roof; the action tends to close the margin rather than open it. Thirdly, the structural elements of the tooth are held together. On upper anterior teeth, there need be no undue exposure of metal. The incisal margin of metal on upper anterior teeth may be well hidden by careful rounding of the surface in order to cast the reflections downward (Fig. 3).

As a general rule efforts to avoid involving the entire occlusal surface of three-quarter veneers in the posterior portion of the mouth for esthetic reasons are unwarranted. Such preparations are inherently weak and invite failure. They attach only to the lingual elements of the tooth, and flexure or even fracture of the unsupported portion of the tooth is possible. The flexibility of the tooth structure should always be borne in mind. This characteristic of dentin may lead to broken cement joints and go unrecognized as the cause of failure.

Outstanding as a cause for many failures of retainers and a specific instance of faulty engineering is the indiscriminate use of inlays (Fig. 4). If the inlay principle is analyzed carefully, it will be seen that because of the nature of the metal used and the tooth structure into which it is placed, there is inconsistency. The crown of the tooth, composed largely of dentin, a flexible substance, could hardly be considered a suitable structure into which to insert another flexible material, the metal alloy of gold, to resist the severe forces to which the inlay is exposed. Flexing, particularly in the case of retainers, is inevitable, and the broken margin soon induces failure.

A further inadequacy of the inlay retainer is that the cusp height is two to three times increased whenever the occlusal groove is cut in order to receive the inlay; this creates a wedging or crowbar effect. While the tooth supporting an individual inlay may withstand such a procedure, a fracture of the unprotected cusp or cusps is very possible under the load required to support a fixed bridge or precision attachment. The relative strength of veneer and inlay retainers is well described by the phrase: "The veneer casting supports the tooth while the inlay casting is supported by the tooth."

When teeth which have suffered extreme carious inroads are to be restored or used as bridge abutments, application of the veneer principle enhances the strength of these teeth. The "wrap around" effect of this type of casting ties the weakened portion of the tooth to the

stronger, thus eliminating the tendency of forces to cause fracture (Fig. 5). This is one of the important applications of the veneer and is fundamental in abutment design.

In youthful persons and others having teeth with extremely large pulps and extended horns, the veneer principle recommends itself because of its greater safety (Fig. 6). Veneer preparations of adequate strength may be made with only slight penetrations into the dentin. It is well in such instances to utilize one of the harder crown and bridge gold alloys.

The accepted rules pertaining to extension for prevention are ordinarily applied to the veneer type of casting for retainers or individual restorations. The additional rule of avoiding direct force or abrasive contact on margins is a logical supplement. All margins should be extended to relatively immune areas. Where it is desirable to minimize the display of gold, minimum extension should be practiced (Fig. 7). Where there is no esthetic consideration, maximum extension will give greater assurance of security.

PREPARING A VENEER RETAINER

The three-quarter veneer restoration on a maxillary anterior tooth to serve as a retainer for a fixed or removable bridge probably demands more skill of the operator than any other procedure. Here the dentist confronts a combination of biomechanical and esthetic demands. A minimum of tooth structure is available by which adequate attachment may be obtained to resist comparatively heavy forces. Added to this is the necessity of avoiding esthetic offence. There are five considerations in the preparation of a tooth which can make such a casting more capable of withstanding hostile forces. These principles may be applied to any tooth carrying a partial veneer.

Walls and Grooves • Walls and grooves (Fig. 8) of proper convergence and adequate length constitute the greatest single element in the stability of a casting on a tooth; that is, providing frictional retention. Frictional retention can be defined as that resistance to removal or displacement of a casting on a tooth which becomes activated by forces tending to dislodge it. This resistance is brought about by the frictional force between the almost parallel internal walls of the casting and the external walls of the preparation.

A slight space allowed for cement between casting and tooth after permanent placement of the casting will not interfere perceptibly with this retention, provided proper engineering has been used in the preparation. Short preparations with overly convergent walls lack frictional retention and invariably fail. In bridgework dental cement in the main serves only as a sealer; its power of retention is negligible. In teeth of average exposed coronal length, the gingival margin of the preparation will be placed slightly subgingivally. Here, very often, where force is to be heavy and the over-all length of the tooth is short, this margin must be carried well below the free gingiva in order to provide sufficient length to the preparation. On the other hand, where gingival recession has exposed considerable crown or root length, subgingival extension is unnecessary to fulfill mechanical demands. The gingiva, being a transitory tissue, need not be the factor determining the location of the gingival margin of a casting.

The development of properly convergent walls will result in various formations of the finishing line region (Fig. 9, above). At times there will be just the slightest definite finish line, as on the lingual surface of the lower molar, whereas on the other surfaces a definite shoulder may be developed. By the placing of a long bevel, however, the definite finish line principle is still employed. The shoulder formation is only incidental to the paralleling of the walls (Fig. 9, below left). This principle is applied to

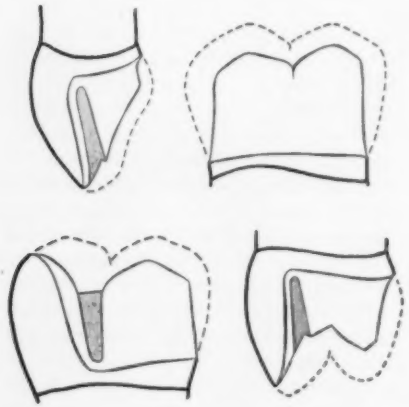


Fig. 1 • Three-quarter veneer preparation on upper cuspid, full veneer on lower molar, half-crown on lower molar and three-quarter veneer on upper bicuspid

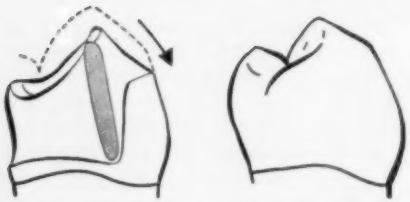


Fig. 2 • Preparation involving facet of wear with margin extended to nonfunctioning area, for "shingled roof" effect

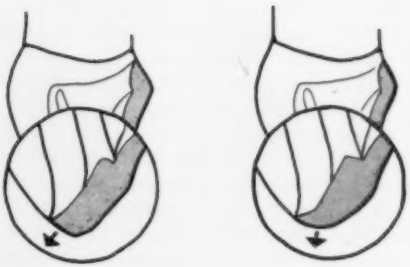


Fig. 3 • Section showing gold-tooth relationship. Arrows indicate direction of light rays reflected off flat surface and rounded surface, respectively

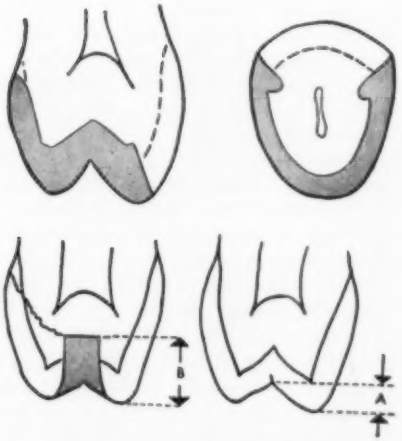


Fig. 4 • Sagittal sections show weakening effect of inlay preparation on potential abutment contrasted with the supporting effect of veneer

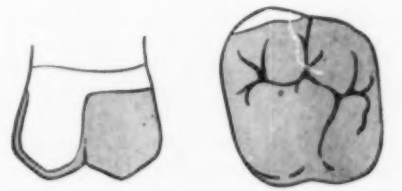


Fig. 5 • The "wrap around" effect of the veneer ties the portions of the tooth together, without esthetic offence. Shown are a seven-eighths veneer on upper first molar, and three-quarter crowns on lower bicuspid and upper cuspid

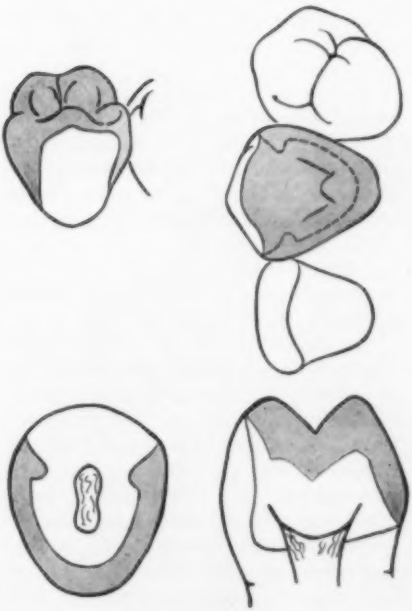


Fig. 6 • Sections showing extremely large pulps in relation to depth of average veneer preparations

the cingula of cuspids or other anterior teeth, where it is essential that a collarlike formation be developed (Fig. 9, below right). The greater the necessity of sloping the preparation toward the lingual from the long axis of the crown, the more pronounced is the formation of the shoulder about the cingulum. The development of the collarlike form about the gingival areas greatly enhances the retentive factors of the preparation.

In anterior teeth, this accentuated finish line makes possible, by slightly overcontouring the cingulum area in the wax pattern, a definite collar of metal which provides added retention of the casting. It also provides rigidity on the lingual aspect against the forces of occlusion which so often spring open the casting margins in the interproximal area (Fig. 10). In short-crowned tapering teeth, particularly posterior ones, this shoulderlike finishing line often results when the walls are made more parallel. Supplemental grooves countersunk into the shoulder may be used in these instances to greatly increase the retentive power.

Instrumentation • A step-by-step description of the instrumentation of the veneer retainer is not indicated in this paper. The use of present-day diamond stones and carbide burs as adapted to the preparation will be pointed out, however (Fig. 11).

Instrumentation of veneer preparations may be carried out with a minimum possibility of irritating the pulp tissue. Local anesthetics may be employed, but the patient's anesthesia must not lead to carelessness so that excessive heat is produced while grinding. The available spray attachment has proved of inestimable value and assistance in cutting these preparations. With this device high-speed revolving instruments may be used without heat production. The field is maintained clear of debris and visibility is facilitated. In addition, both the tooth and the instrument are kept free of grindings.

A careful survey of the preparation should be made before starting to cut. The location of gingival margins should be determined. Excessive subgingival extension might be contraindicated unless adequate length of the preparation cannot be obtained otherwise. Such excessive extension would only add needless gingival trauma and make it difficult to obtain an impression of the tooth with elastic materials.

Esthetically, the interproximal initial "slice cut" on an anterior tooth is a most delicate step, particularly on a tooth which has not been previously restored or where caries is not present. In this situation inclination of the separating disks toward the lingual surface, as illustrated in Figure 12, will preserve the natural mesiodistal contour of the tooth, thereby preventing the display of gold to the casual observer. A comparison of Figures 12 and 13 illustrates this point. Slight separation of the teeth on the dentulous side of the abutment will facilitate the passage of the disk through the contacting area. Access may also be gained in this rather confined location by using a steel safe-sided lightning strip. Then, to reiterate, as the disk removes the interproximal surface, it must be held well inclined toward the lingual surface when viewed from a labiolingual plane. The two slice cuts converge slightly incisally.

Axial surfaces are best removed with the type of diamond stone illustrated in Figure 14. These tapered diamond stones vary in size; the larger is for molars, the medium is for bicuspids and the lingual surfaces of anterior teeth, the smaller is for carrying the finishing line as far as possible into the interproximal area. This type of snub-nosed stone can be used to develop either a clean finishing line or a shoulderlike accentuated finishing line. This accentuated type of line will automatically appear with increased parallelism on the buccal surface of a

lower molar (Fig. 15), or on the lingual surface of an anterior veneer when greater bulk of metal is used to give the collarlike effect at the cingulum as previously mentioned. Interproximal access where an adjacent tooth is present can be gained generally by using a thin steel lightning disk. Where no proximal tooth is present, this region may be developed with the tapered snub-nose diamond. These diamond stones are all usable for interproximal grooving depending on the size of the tooth (Fig. 15). This figure illustrates better than words can tell, a basic rule in abutment preparation. The handpiece is held constantly in a previously determined line of shed. In this way the hazards of undercutting are greatly reduced.

The anterior three-quarter preparation involves the most difficult step in the field of precision operative dentistry—the connecting of the margin left by the separating disk interproximally with the gingival end of the groove on the side approximating an adjacent tooth. This relatively inaccessible triangular-shaped area of tooth structure cannot be reached by the disk; until the advent of the very small diamond tapered stone the operation was always rather a hit-and-miss proposition. Figure 16 illustrates the use of this small stone, comparable to a no. 700 fissure bur in size. High speed and very light pressure are used to remove this island of tooth structure and establish a definite finish margin between the end of the groove and the interproximal slice cut.

Adequate Clearance • It is extremely difficult to propose any definite amount of clearance on the lingual surface of anterior veneers or on the occlusal surface of posterior veneers. The degree of force exerted against veneers, the length of span of the bridge, the amount of tooth structure available into which to cut the preparation, are factors determining the clearance. It is conceivable that a clearance of 0.75 mm. would be adequate where an anterior veneer casting is constructed on a thin tooth, using one of the harder types of crown and bridge gold. At the other extreme, in the posterior section of the mouth where a molar is to serve as a long span abutment, and where the remaining teeth indicate heavy wear, a clearance of 1.5 mm. would not be excessive. In the posterior teeth, sufficient occlusal clearance in all excursions of mastication must be acquired to allow for bulk of metal and deep occlusal carvings. It is well to follow out the basic cuspal form of these surfaces in order to obtain more or less uniform clearance. Deep, definite carvings are anatomically correct, and they provide for the functioning part of the casting to be formed by a series of sharp blades (Fig. 17). These blades encourage efficient mastication, and wear more uniformly with the remaining teeth than do large flat facets. It is often noted that extensive bridges constructed with large, flat occlusal surfaces of hard gold alloy reach a state of hyperocclusion simply because the metal has failed to wear away at the same rate as the occlusal surfaces of the remaining natural teeth.

Instrumentation • Bulk may be removed quickly with a wheel type of stone (Fig. 18), the size of the stone again depending on that of the tooth involved. The general cuspal formation of the molars may be followed out with inverted cone stones. Shaping the occlusal surface of the preparation in this manner allows for a uniform clearance as well as sufficient depth for accentuated occlusal grooves in the finished casting.

Offset Grooves • Offset grooves (Fig. 19) serve to connect the proximal grooves with a thick bar of metal, both in the anterior and posterior partial veneer. Their use is entirely consistent with the engineering principle of the truss. With the sacrifice of a minimum amount of

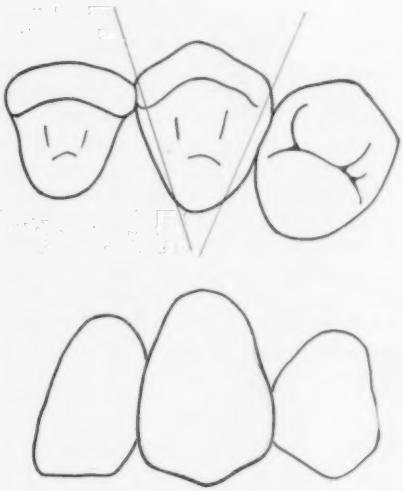


Fig. 7 • View of upper cuspid showing minimum extension of labial extension and gold exposure

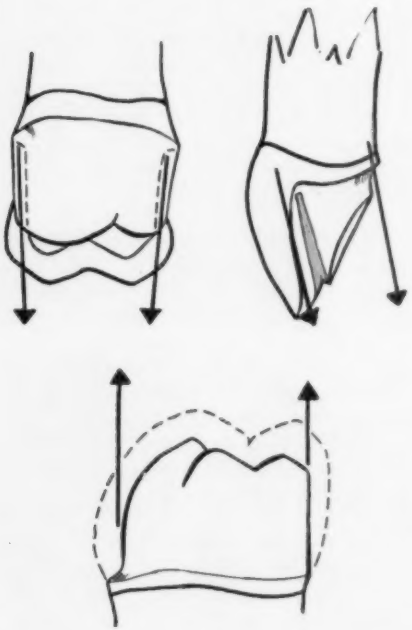


Fig. 8 • Three-quarter preparation on upper molar, full veneer on lower molar and three-quarter veneer on upper cuspid, showing quasi-paralleling or slight convergence of walls and grooves to obtain maximum frictional force

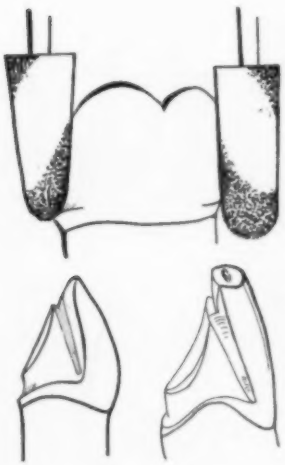


Fig. 9 • Above: The development of properly convergent walls will result in various formations of the finishing line. The same blunt-nosed tapered diamond stone may be used as shown. Below left: Accentuated finishing line on lingual surface fades out to a conventional finishing line in the interproximal area. Below right: An even more pronounced shoulder on the lingual gingival margin of the lower anterior tooth results from a line of shed directed lingually

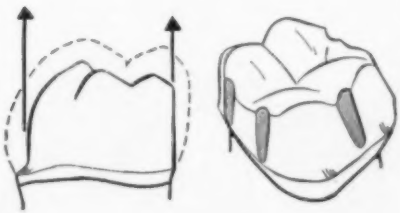


Fig. 10 • A shoulderlike finishing line often results on buccal surface when walls are made more nearly parallel. Supplemental grooves improve the retention in short posterior teeth

Fig. 11 • Nos. 1, 2 and 3 are various sizes of blunt-nosed tapered diamond stones. No. 4 is a very small, fine-tapered diamond approximately the size of a no. 700 bur. No. 5 is a carbide bur, size no. 700, for placing interproximal grooves

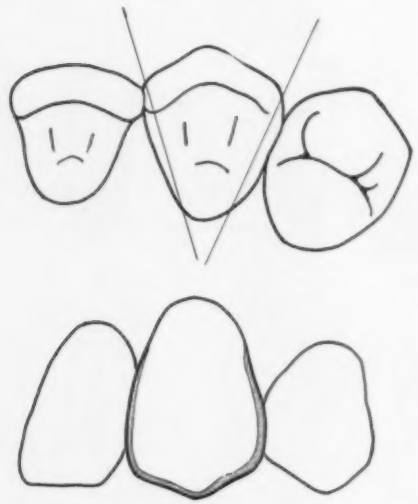


Fig. 12 • Mesiodistal contour of upper cuspid is preserved when interproximal surface is removed with a separating disk inclined lingually

Fig. 13 • When initial interproximal cuts are made without the lingual inclination of the disk, the entire mesiolingual contour of the cuspid is destroyed, resulting in needless display of gold and sacrifice of tooth structure

Fig. 14 • On lower molar an accentuated finished line is automatically developed by a snub-nosed diamond on the buccal and lingual surfaces of an upper cuspid. Arrows indicate position of stone in relation to line of shed to establish definite wall to function in opposition to grooves

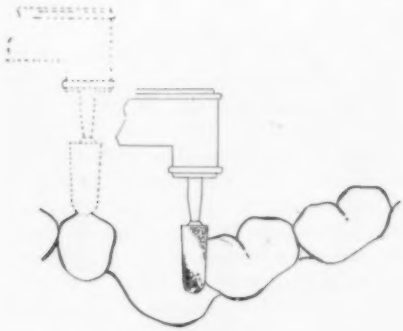


Fig. 15 • A basic rule in abutment preparation is to maintain the handpiece in an established line of shed, regardless of the direction of the long axis of the tooth being prepared

Fig. 16 • "Island" of tooth structure left by slice cut and interproximal groove is removed by small tapered diamond stone

Fig. 17 • Deep occlusal carvings form series of blades

tooth structure, an added amount of metal is made available in a most vulnerable region. The added thickness gives rigidity to withstand the functional force exerted against it in the region of the tooth where the greatest wear occurs, and also provides bulk to prevent opening of the incisal or occlusal margin, springing of the casting, and subsequent failure of the interproximal margins.

Marginal Extension • Where an esthetic result is important, the marginal extensions are limited (Fig. 20). This is particularly true in the mesial area of the anterior three-quarter crown casting. This minimal extension can be attained by careful operating, relying on the use of separators, thin separating disks and fine diamond stones. It should be noted, though, especially with cuspids, that any loss of coronal grasp caused by such limited extension should be compensated for by a slight extra extension on the distal surface. This principle is of cardinal importance, and any sacrifice of extension for the purpose of esthetics is an invitation to failure. As previously stated, all facets of wear should be covered, and the margins extended to just beyond their boundaries.

Instrumentation • A refined instrumentation of that used in walls and grooves is used in marginal extension. On the mesial surface of a three-quarter veneer where the extension, for esthetic reasons, is to be limited, the margin often may be completed with fine wet or dry paper disks. In fact, these are excellent for finishing all margins and flares where accessible. The distal aspect of the preparation, usually carried well onto the buccal surface of posterior teeth with a blunt-nosed diamond, can also be finished with such disks.

Incisal or Occlusal Reverse Bevel • The slight reverse or back bevel (Fig. 21) is a "bevel" in a very restricted sense. It is more accurately a rounding of the incisal margin. The incisal margin of a carefully prepared three-quarter veneer leaves a sharp, delicate enamel knife-edge. Slight rounding of this margin not only protects it against fraying or fracture during the fabrication of the crown, but provides a much easier edge against which to finish the margin of the casting. Without such rounding, one is working with a butt joint, and as every operator knows, it is extremely difficult to adapt and finish a gold casting to a butt joint. Furthermore, the "shingled roof" relation which the gold has to the tooth in this region allows the forces directed against it to close the margin rather than open it.

Instrumentation • The bevel can be obtained with the wet or dry type of paper disk. On the incisal margin of anterior teeth it is best done with the assistance of binocular loupes. For esthetic harmony the incisal edge should conform in shape to that of the adjacent anterior teeth. The edge can be developed with the disk and then carefully rounded.

At this point the preparation should be ready for final checking and inspection. Scouring the tooth with a paste of pumice and peroxide will remove debris. A forceful blast of warm spray from the atomizer, followed by drying of the preparation with warm air, will make the preparation ready for examination with the loupes. It is well to note the following points:

1. The length of walls and grooves should be observed to make sure that they are adequate in length and free of undercuts.
2. Clearance in centric and eccentric positions should be checked.
3. Every margin must be smooth and free from ragged edges, and flares polished. The labiogingival angles of the three-quarter preparation should be rechecked to ascertain that the flares become continuous with the bevel at the

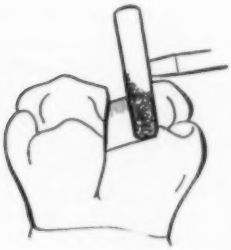


Fig. 18 • Bulk is removed with a wheel type of diamond stone

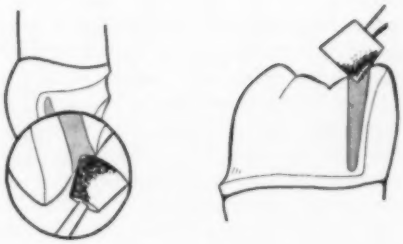


Fig. 19 • An inverted cone diamond stone is used to develop occlusal or incisal groove connecting interproximal grooves

Fig. 20 • Marginal extensions are limited for esthetic reasons on the upper cuspid

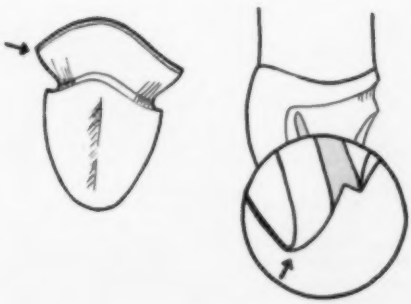


Fig. 21 • A slight reverse or "back" bevel on incisal or occlusal margin

gingival end of the grooves. No abrupt shelf should be left at this point.

Preparations performed in the manner described in this paper are not altered to conform to any particular technic of reproduction, if such alteration in any way lessens the advantages gained by following the principles advocated. Each detail in the preparations is performed for a definite reason. The next step in the procedure constitutes a genuine challenge to the operator—building a die on which to construct a satisfactory casting or, better yet, in the case of the conservative anterior three quarter preparation, building a direct wax pattern from which to construct a satisfactory casting. He must project, so to speak, on to the finished restoration those inherent qualities built into the prepared tooth. The casting becomes the important connecting link which makes this possible.

Posterior Preparations • The principles covered in the foregoing discussion of the anterior veneer crown are also applicable to the posterior teeth. Whether it be a half crown, three-quarter, seven-eighths, or full veneer crown, the same fundamentals should be observed. The absence of severe esthetic requirements in this region of the mouth permits even more extensive coverage, additional length when needed, and greater bulk of metal to resist displacement and deflection.

COMMENT

Rarely does a dentist experience a greater satisfaction from dental operations than when observing a restoration of this type, esthetically acceptable, still functioning after many years, with pulp undamaged, and with healthy investing tissues. To quote the late Harry Potter:

> With ordinary precautions in the design, preparation, guarding and cementation of veneer types of castings for fixed or removable types of bridges constructed along proven principles, the placing of such work should represent one of the finest services the dental profession can render.

Joy of Perfection • A great deal of the joy of life consists of doing perfectly, or at least to the best of one's ability, everything which he attempts to do. There is a sense of satisfaction, a pride in surveying such a work—a work which is rounded, full, exact, complete in all its parts—which the superficial man, who leaves his work in a slovenly, slipshod, half-finished condition, can never know. It is this conscientious completeness which turns work into art. The smallest thing, well done, becomes artistic. *William Mathews.*

Preliminary report on the effect of complete mouth rehabilitation on oral lactobacilli counts

Irving L. Shklair, Ph.D.; Harold R. Englander,† D.D.S., M.P.H.; Lawrence M. Stein,‡ B.S., Great Lakes, Ill., and Robert G. Kesel,§ D.D.S., M.S., Chicago*

The presence of lactobacilli in saliva has been widely used as an index of dental caries activity. Caries active subjects usually demonstrate lactobacilli counts of at least 10,000 colonies per milliliter of saliva, whereas caries inactive individuals seldom exhibit counts above 2,000 colonies and often manifest zero counts.[1] Arnold and McClure[2] demonstrated a close correlation between clinical dental caries activity and the number of salivary lactobacilli during a one year period. Becks, Jensen and Millarr[3] found a strong relationship between lactobacilli indexes and dental caries frequency and furthermore drastically reduced both lactobacilli counts and dental caries incidence by dietary restriction of refined carbohydrates. Recently Kitchin and Permar[4] corroborated Jay's[5-7] findings by reducing high salivary lactobacilli counts to low levels through short periods of carbohydrate restriction.

The previous studies have definitely shown the ability of dietary restriction to reduce high salivary lactobacilli counts but have failed to account for the effect of filling carious lesions and extractions. This study was performed to determine the effect of complete mouth rehabilitation on oral lactobacilli.

PROCEDURE

Forty-four naval recruits, aged 17 to 21, at the Great Lakes Naval Training Center were utilized for this project. All carious teeth were restored and necessary extractions performed.

All enlistees were given complete

The opinions or assertions contained in this article are the private ones of the writers and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

*Bacteriologist, dental research facility, Great Lakes Naval Training Center.

†Lieutenant, Dental Corps, U. S. Navy, principal investigator, dental research facility, Great Lakes Naval Training Center.

‡Dental research technician, U. S. Navy, Great Lakes Naval Training Center.

§Professor of dentistry, University of Illinois College of Dentistry.

1. Jay, P. Personal communication.

2. Arnold, F. A., Jr., and McClure, F. J. Study of the relationship of oral lactobacillus acidophilus and saliva chemistry to dental caries. Pub. Health Rep. 56:1495 July 25, 1941.

3. Becks, H.; Jensen, A. L., and Millarr, C. B. Rampant dental caries: prevention and prognosis. J.A.D.A. 31:1189 Sept. 1944.

4. Kitchin, P. C., and Permar, D. Results of an eight year study of the effectiveness of carbohydrate restriction in reducing salivary lactobacillus counts. J.D. Res. 34:89 Feb. 1955.

5. Jay, P. Lactobacillus acidophilus and dental caries. Am. J. Pub. Health 28:759 June 1938.

6. Jay, P. Reduction of oral lactobacillus acidophilus counts by the periodic restriction of carbohydrate. Am. J. Orthodont. & Oral Surg. (Oral Surg. Sect.) 33:162 March 1947.

7. Jay, P., and others. Dietary program for the control of dental caries. Ann Arbor, Mich., Overbeck Co., 1951.

clinical and roentgenographic dental examinations at a recruit dental clinic by several examiners. All carious lesions were charted on Navy Form 603, which provides a chart for recording completed restorations and extractions. These records were the only source of dental information available to the authors, who were unable to examine patients clinically and roentgenographically for caries at any time during the study. Carious teeth were restored with silver amalgam and silicate cement by several dentists. A few subjects received a dental prophylaxis a week before operative procedures were instituted.

Two fasting saliva samples were cultured for the presence of lactobacilli by the method of Jay and Arnold[8] prior to the initiation of the clinical program and at biweekly intervals up to 15 weeks after rehabilitation.

Forty recruits who did not receive dental restorations (emergency treatment only) but who lived in an environment similar in all respects to that of the rehabilitated individuals were utilized as controls. Duplicate lactobacilli counts were made at monthly intervals for three months.

RESULTS

During the first week after complete mouth rehabilitation, there was a precipitous drop of at least 76 per cent over the prerestoration lactobacilli counts (Table 1). Sixty-nine per cent (27 of 39 patients) exhibited zero counts the first week after all carious lesions had been restored, whereas 82 per cent (31 patients) fell within the range of 0 to 2,200 lactobacilli. Fifteen per cent (6 patients) exhibited counts of 5,500 or above.

Eighteen patients remained negative throughout the period of observation which ranged from one to 15 weeks, and 22 exhibited consistent zero counts through the seventh week. Most patients remained at the reduced level for two to three months and then the count began to rise; the degree of elevation, however, did not approach the preoperative counts. Only one patient demonstrated a return count greater than the precount and this occurred on the ninth week and was preceded by four zero counts. Two patients did not exhibit a zero lactobacillus count at any time during the period of observation.

There was a drop in lactobacilli in five patients whose mouths were incompletely rehabilitated. This trend was not nearly as noticeable as was the trend for those patients in whom all carious lesions apparently had been completely restored.

All patients had an extremely high number of carious teeth and markedly elevated initial lactobacilli counts. The mean number of carious teeth per person was 15 with a range of 3 to 27. The average preoperative lactobacillus count was well over 100,000 colonies per milliliter of saliva.

In Table 2, a decided contrast can be seen when the counts of the rehabilitated patients are compared with those of the controls. The latter did not exhibit similar reductions, and most control counts remained at consistently high levels and many increased.

DISCUSSION

The evidence indicates that lactobacilli counts drop considerably when carious lesions are eliminated by restorations with silver amalgam, silicate cement or by extraction. This reduction occurred to a lesser degree in incompletely rehabilitated mouths.

Control of this study was difficult to maintain in many aspects. Because of illness, discharge, official orders, and so forth, many of the patients could not be followed for the period of 15 weeks.

8. Jay, P., and Arnold, F. A., Jr. Epidemiological aspects of oral lactobacillus counts in fluoride and nonfluoride areas. In Dental caries and fluorine, Moulton, F. R., editor. Lancaster, Pa., Science Press, 1946, p. 46.

Table 1 • Lactobacilli counts of 39 apparently completed and five incompletely rehabilitated caries active mouths before and at biweekly intervals up to 15 weeks

Prerestoration lactobacilli counts Col/ml	Postrestoration lactobacilli counts (weeks)							
	1st	3rd	5th	7th	9th	11th	13th	15th
31,000	0	0	0	0	—	0	0	0
88,000	0	0	0	0	—	0	0	0
528,000	0	0	0	0	0	0	0	
35,000	0	0	0	0	0	0	0	
21,000	0	0	—	0	0	0	0	0
127,000	0	0	0	0	0	0		
60,000	0	—	0	0	0	0		
228,000	0	0	—	0	0	0		
174,000	0	0	0	—	—	0		
122,000	0	0	0	0	0	0		
15,400	0	0	0	0	0	0		
46,000	0	0	0	0	0			
73,000	0	0	0	0	0			
358,000	0	0	0	0	0			
147,000	0	0	0	0	0			
56,000	0	0	—	0				
192,000	0	0	—					
32,000	0	—						
19,000	0	0	—	0	0	0	9,000	
74,000	0	0	0	0	400	0	0	
65,000	0	0	0	0	150	100	0	
83,000	0	0	0	0	300	0	5,550	
500,000	0	0	0	0	7,500	1,000		
11,250	0	0	0	0	142,000			
60,000	0	0	200	120	0	0		
2,100	0	450	0	400				
72,000	0	4,400	3,850	3,850	1,400	3,800		
156,000	100	100	—	0	0	0	0	
205,000	100	—	0	0	0			
328,000	600	300	0	0	0	0		
46,000	400	4,200	0	0	0			
44,000	2,200	0	0	—				
160,000	5,900	450	0	0	0	0	0	0
322,000	5,500	5,000	1,000	0	—	13,000	21,000	
89,000	7,100	0	0	0				
38,000	9,000	100	—	300				
320,000	15,000	8,000	0	0	0			
176,000	19,000	18,000	10,000	12,000	0	0	46,000	
292,000	—	31,000	4,800	—	18,000			
	Incompletely rehabilitated mouths							
55,000	0	26,000	8,000	744,000	16,000	156,000		
222,000	0	0	90,000	61,000	16,000	700		
22,250	9,000	100	—	300				
111,000	69,000	0	—	42,000	3,250			
105,000	76,000	53,000	32,000	—	—	28,000		

The condition of the patients' mouths was diagnosed and restorations fabricated at a recruit dental clinic by several operators. The only possible way to check whether all carious lesions had been properly diagnosed and subsequently restored was through the information noted on the Navy Form 603. The charts of the five incompletely rehabilitated mouths showed unfilled lesions. A question may now arise as to why all the 39 completely rehabilitated patients did not uniformly exhibit zero postoperative counts even though the forms showed that all lesions had been treated. As it was impossible for the authors to recheck the patients along with their preoperative and postoperative roentgenograms, it is not known

Table 2 • Duplicate lactobacilli counts of 40 typical unrehabilitated recruits (emergency treatment only) at monthly intervals for three months

Lactobacilli counts					
First month		Second month		Third month	
33,000	900	54,000	29,000	216,000	120,000
112,000	—	142,000	244,000	102,000	42,000
TN*	81,000	60,000	10,800	264,000	111,000
750	63,000	80,000	22,000	33,000	19,000
54,000	138,000	510,000	45,000	30,000	148,000
18,000	23,000	—	96,000	42,000	29,000
91,000	120,000	207,000	106,000	18,000	—
4,300	63,000	36,000	5,600	6,200	106,000
419,000	180,000	71,000	177,000	96,000	—
4,000	6,000	66,000	5,100	1,500	6,500
1,900	13,500	2,700	7,200	54,000	36,000
13,000	92,000	480,000	456,000	48,000	162,000
39,000	9,300	600	16,000	252,000	264,000
14,000	38,000	360,000	84,000	54,000	28,000
6,000	338,000	216,000	368,000	108,000	660,000
204,000	264,000	168,000	168,000	TN	89,000
66,000	43,000	63,000	42,000	98,000	TN
174,000	45,000	120,000	74,000	132,000	132,000
97,000	98,000	TN	120,000	108,000	83,000
12,000	11,000	82,000	18,000	9,300	18,000
37,000	75,000	120,000	108,000	249,000	87,000
189,000	4,900	204,000	498,000	TN	136,000
240,000	270,000	240,000	75,000	314,000	162,000
19,000	16,000	6,200	51,000	58,000	57,000
71,000	34,000	202,000	126,000	16,000	94,000
49,000	14,000	27,000	9,200	118,000	TN
4,800	50	34,000	21,000	31,000	36,000
118,000	420,000	TN	TN	168,000	66,000
126,000	102,000	52,000	62,000	TN	TN
48,000	168,000	38,000	81,000	TN	TN
74,000	189,000	105,000	72,000	700	18,000
37,000	124,000	174,000	192,000	—	75,000
81,000	66,000	32,000	84,000	66,000	11,000
3,500	4,000	350	0	17,000	18,000
300	8,100	51,000	84,000	52,000	39,000
7,100	16,000	99,000	87,000	33,000	28,000
67,000	56,000	126,000	89,000	49,000	82,000
124,000	62,000	15,000	264,000	—	—
54,000	45,000	53,000	144,000	58,000	19,000
3,100	18,000	5,900	15,000	0	7,000

*TN—too numerous to count.

whether all carious lesions were diagnosed accurately or properly restored. Perhaps an enamel lesion was inadvertently overlooked, and therefore not recorded, or possibly a carious pit or fissure was not diagnosed.

Many factors may account for a reduction of lactobacilli in rehabilitated mouths. Perhaps the oligodynamic action of amalgam or the bacteriostatic effect of silicate restorations played a role in the reduction.[9] More likely, however, the elimination of food retention sites and lactobacilli-infected carious regions was chiefly responsible for their disappearance. Reduced sugar intake might be considered a factor. The recruits, however, were not limited at any time in their carbohydrate consumption; if anything, they consumed more than the usual amount of fermentable material during the period of study. Forty essentially untreated individuals failed to show similar reductions in lactobacilli counts over a three month period. Other investigations in this laboratory have shown consistently high lactobacilli counts during comparable training periods.

The tendency of lactobacilli counts to drop after mouth rehabilitation should be an important consideration when evaluations are made of caries control agents. Those members of a study who receive dental restorations simultaneously with the application of an anticaries therapeutic procedure, may have their lactobacilli pictures influenced by both factors.

This study will continue over a longer period with a more careful selection of patients. More care will be taken to ensure the accuracy of clinical and roentgenographic diagnosis of carious lesions, and more attention given to the extent and quality of rehabilitation performed.

SUMMARY

This is a preliminary report of the effect of full mouth rehabilitation on oral lactobacilli counts. Thirty-nine apparently rehabilitated mouths showed precipitous drops in lactobacilli counts after amalgam and silicate restorations had been placed. Five incompletely rehabilitated patients showed reduced counts but to a lesser degree. The 40 control patients did not exhibit a reduction in lactobacilli counts.

9. Appleton, J. L. T. Bacterial infection with special reference to dental practice, ed. 4. Philadelphia, Lea & Febiger, 1950, p. 115.

Uptake of tin and fluoride by intact enamel

F. Brudevold, D.D.S., M.S.; L. T. Steadman, Ph.D.; D. E. Gardner, B.S.; J. Rowley, B.S., and M. F. Little, B.S., Rochester, N. Y.

Recent clinical studies by Howell and co-workers[1] and Muhler and co-workers[2] suggest that the topical application of stannous fluoride and the use of a stannous fluoride dentifrice have a caries-reducing effect. The extent to which the tin in the stannous fluoride contributes to this effect has not been established. Fischer, Muhler and Wust[3] found that a yellow material forms on enamel particles exposed to stannous fluoride solutions. It seems unlikely, however, that a deposit of such material would give prolonged protection against caries unless it became firmly attached to the teeth, and there is no evidence that this occurs.

Hatton, Muhler and co-workers[4, 5] have shown that greater amounts of fluoride will react with powdered enamel exposed to dilute solutions (500 ppm or less) of stannous fluoride than to similar solutions of sodium fluoride. However, the increased fluoride uptake was considered to be due to the lower pH of the stannous fluoride solutions rather than to the presence of stannous ions. This conclusion is supported by observations of Neuman[6] and others on bone which showed that fluoride uptake will increase with a decrease in pH when the concentration of fluoride is so low that the solubility product of calcium fluoride is not exceeded. In this case, fluoride will compete with hydroxyl ions for a place in the apatite lattice, and fluorapatite will be formed. At the high concentrations of fluoride used in topical applications, however, or in toothpaste (approximately 1,000 ppm or more), calcium fluoride is the main fluoride formed on enamel,[7] and the effect of pH on fluoride uptake under these conditions has not been definitely established.

From the foregoing it may be concluded that little is known about the reaction involved in topical application of stannous fluoride to the enamel surface. An uptake of fluoride by the enamel may be expected, but to what extent tin reacts is not known. A recent study[8] showed that

This work was supported in part by the Bristol Myers Company and in part by contract with the U. S. Atomic Energy Commission at the University of Rochester Atomic Energy Project, Rochester, N. Y.

From the Eastman Dental Dispensary and University of Rochester.

1. Howell, L. C., and others. Effect of topically applied stannous fluoride on the dental caries experience in children. J.A.D.A. 50:14 Jan. 1955.

2. Muhler, J. C., and others. Effect of a stannous fluoride containing dentifrice on caries reduction in children. II. Caries experience after one year. J.A.D.A. 50:163 Feb. 1955.

3. Fischer, R. B.; Muhler, J. C., and Wust, C. J. Effects of several fluoride reagents on the surface structure of powdered dental enamel. J.D. Res. 33:50 Feb. 1954.

4. Hatton, W. E.; Nebergall, W. H., and Muhler, J. C. The removal of flourine from dilute solutions of sodium fluoride and stannous fluoride by powdered dental enamel. J.D. Res. 34:350 June 1955.

5. Muhler, J. C., and Day, H. G. Relation of pH to the effectiveness of sodium fluoride and stannous fluoride in decreasing enamel solubility. J.D. Res. 31:102 Feb. 1952.

6. Neuman, W. F., and others. The surface chemistry of bone. 2. Fluoride deposition. J. Biol. Chem. 187:655 Dec. 1950.

7. McCann, H. G., and Bullock, F. A. Reactions of fluoride ion with powdered enamel and dentin. J.D. Res. 34:59 Feb. 1955.

8. Brudevold, F. and Steadman, L. T. A study of tin in enamel. J.D. Res. In press.

only infinitesimal amounts of tin are present in normal enamel, in spite of the fact that tin is a commonly occurring trace element in foods.[9] This would indicate that tin is not taken up by enamel at the pH normally found in the mouth. At the much lower pH of stannous fluoride solutions, however, it is possible that acquisition of tin may take place.

The present study was designed to obtain information about uptake of tin and fluoride by intact enamel from exposure to solutions of sodium fluoride, stannous fluoride, and stannous chlorofluoride of similar concentrations to those used in topical application. The uptake from a commercially available stannous fluoride toothpaste was also studied.

PROCEDURES

Experimental conditions were adopted, simulating as closely as possible the conditions existing under topical application procedures. Only intact enamel was used, and rigorous washing, both in saliva and water, was carried out after the fluoride exposure. The chemical analysis was performed on the external layer of the enamel, because the reaction of fluoride and tin with enamel is primarily a surface reaction. This superficial enamel was collected by grinding, and it was necessary to pool samples from many teeth in order to obtain sufficient quantities for reliable chemical determinations.

Permanent molars of different ages were stored in a refrigerator after extraction, and carious material and fillings were removed. The teeth were pumiced and cut along the long axis into four parts, each part having approximately the same surface area of enamel. The four parts from each tooth were then distributed into four groups. The root and dentinal surfaces were covered with wax, leaving the enamel free. The groups thus prepared were exposed for 20 minutes under mild mechanical shaking to 100 cc. of solutions containing the following equimolecular concentrations of fluoride: In one experiment, which included 54 teeth, one group was exposed to 1.86 per cent stannous fluoride,[10] another group, to 4.12 per cent stannous chlorofluoride,[10] a third group, to 1.00 per cent sodium fluoride, and the fourth group, which served as control, to distilled water. These concentrations were chosen because they were shown to be effective in a topical application study made by Howell and co-workers.[1]

In a second experiment which employed 100 teeth, one group was exposed to a 10 per cent slurry of a commercially available stannous fluoride toothpaste. The concentration of stannous fluoride in the slurry was 0.04 per cent. Another group was exposed to a solution of 0.04 per cent stannous fluoride, a third group, to 0.0214 per cent sodium fluoride, and the fourth and control group to distilled water. All stannous fluoride solutions were made up in boiled distilled water immediately before the test, as proposed by Muhler.[11]

After exposure, the teeth were washed in 100 cc. of fresh saliva and were shaken for one hour. Thereafter, they were washed repeatedly and then were shaken for half an hour in an additional 100 cc. of distilled water. In order to remove loosely bound precipitates of salts which might have formed during the fluoride exposure, the enamel surfaces were finally brushed with a rotating brush under a stream of distilled water. After drying in air, two thin, successive layers of enamel were ground off with a diamond stone, and the samples of pooled enamel thus obtained were dried to constant weight and analyzed for tin and fluoride. Tin was determined spectrographically, using

9. Kehoe, R. A.; Cholak, J., and Story, R. V. A spectrochemical study of the normal ranges of concentration of certain trace metals in biological materials. J. Nutrition 19:579 June 1940.

10. Stannous fluoride and stannous chlorofluoride supplied by J. C. Muhler, Indiana University.

11. Muhler, J. C. Personal communication, 1954.

the method of Steadman described elsewhere,[8] and fluoride was determined on samples ashed at 575°C. The fluoride was separated by the distillation method of Willard and Winter,[12] and the fluoride content of the distillate determined by a titration method patterned after the salt-acid-thorium-nitrate procedure of Williams.[13]

RESULTS

Two experiments, as described under "procedures," were carried out. The results of the first experiment are shown in Table 1. It will be noted that the enamel exposed to either of the two stannous solutions picked up appreciable amounts of tin. The greatest concentration of tin, 640 ppm, was found in the outer enamel of teeth exposed to tin chlorofluoride, but uptake from the stannous fluoride solution resulted in the only slightly lower concentration of 600 ppm. It is interesting that substantial amounts of tin, 300 ppm and 250 ppm, occurred in the second enamel layer of these teeth, demonstrating that the tin penetrated some distance into the enamel. The tin content in the outer enamel from the control teeth and the teeth exposed to sodium fluoride was 15 and 25 ppm, respectively, confirming our earlier observation that little tin is normally present in intact enamel.

The teeth exposed to fluoride all showed fluoride concentrations in the outer enamel exceeding the 924 ppm found in the control teeth. The sodium fluoride group, with a concentration of 1,440 ppm, had the greatest uptake, followed by the stannous fluoride group with 1,200 ppm. However, the concentration in the stannous chlorofluoride group, 1,031 ppm, could not be considered significantly different from the control since the difference was within the limit of the error of the fluoride method. Fluoride undoubtedly was acquired from the stannous chlorofluoride solution, however, because the second layer of the enamel exposed to this agent had a significantly greater fluoride concentration than that of the control. This was also true of the second enamel layer from the outer fluoride-exposed groups. Evidently exposure to the fluoride solutions caused some penetration of fluoride into the enamel. The higher concentration of fluoride in the first than in the second layers of enamel of the control teeth agrees with previous findings that fluoride normally occurs in greater concentrations in surface than in subsurface enamel.[14]

The results of the second experiment are shown in Table 2. Once more, tin was picked up from the stannous fluoride solution, although in smaller amounts than in the previous experiment which employed higher concentrations. Unexpectedly, there was no measurable uptake of tin from the stannous fluoride toothpaste. The failure of the tin in the paste to react with the enamel may be related to its nearly neutral pH of 6.0, compared to pH of 3.7 for the stannous fluoride solution.

As shown in Table 2, the uptake of fluoride seemed to follow the same pattern observed in the first experiment. However, only the sodium fluoride-exposed enamel showed a fluoride concentration in the outer layer significantly greater than the control. There was no significant difference in the fluoride concentrations of the second enamel layers from the different groups. Therefore, under the conditions of this experiment, fluoride was acquired by the enamel from the solution of sodium fluoride, but there was no significant uptake from the solu-

12. Willard, H. H., and Winter, O. B. Volumetric method for determination of fluorine. J. Ind. Eng. Chem., Anal. Ed. 5:7, 1933.

13. Smith, F. A., and Gardner, D. E. A comparison of the thorium-nitrate-back titration and the salt-acid-thorium titration for the determination of fluoride. Arch. Biochem. 29:311 Dec. 1950.

14. Brudevold, F.; Gardner, D. E., and Smith, F. A. Distribution of fluoride in human enamel. J.D. Res. In press.

Table 1 • Fluoride and tin concentration in external enamel after exposure to 1 per cent sodium fluoride, 1.86 per cent stannous fluoride and 4.12 per cent stannous chlorofluoride

Test agent	pH	Per cent in test solution		Enamel			
				Tin ppm layer		Fluoride ppm layer	
		Tin	Fluoride	1	2	1	2
Sodium fluoride	5.6	0.0	0.452	25	5.6	1,440	561
Stannous fluoride	2.9	1.41	0.452	600	250	1,200	580
Stannous chlorofluoride	1.6	2.82	0.452	640	300	1,031	570
Control	—	0.0	0.0	15	10	924	400

tion of stannous fluoride and the toothpaste slurry.

DISCUSSION

The superior effects attributed to stannous fluoride over sodium fluoride, both in reducing dental caries and in reducing enamel solubility, must be related to different reactions of these compounds with the enamel. According to our results, more fluoride was taken up from sodium fluoride than from stannous fluoride solutions. Therefore, if the fluoride in these compounds were the only active agent, sodium fluoride should be more effective than stannous fluoride. If the reverse is true, as reported by Muhler, it is evident that the tin acquired by the enamel from stannous fluoride must play a considerable part in increasing the resistance of the enamel. This is not surprising, because tin forms many compounds, including phosphates, which are highly insoluble and which, once deposited in the enamel, may be expected to form barriers against decalcification. The caries-reducing effect of topical application of stannous fluoride is, therefore, likely to be a combined effect of the stannous and fluoride ions, both reacting with the enamel to form acid-resistant compounds. The concept of a combined effect is actually supported by one of Muhler's[15] rat experiments, in which he found some reduction in dental

15. Muhler, J. C., and Day, H. G. Effect of stannous fluoride, stannous chloride and sodium fluoride on the incidence of dental lesions in rats fed on a caries-producing diet. J.A.D.A. 41:528 Nov. 1950.

Table 2 • Fluoride and tin concentration in external enamel after exposure to .0214 per cent sodium fluoride, .04 per cent stannous fluoride, and a toothpaste slurry containing .04 per cent stannous fluoride

Test agent	pH	Per cent in test solution		Enamel			
				Tin ppm layer		Fluoride ppm layer	
		Tin	Fluoride	1	2	1	2
Sodium fluoride	6.0	0.0	0.0098	22	4.3	968	508
Stannous fluoride	3.7	0.0305	0.0098	150	21.0	883	432
Toothpaste slurry	6.0	0.0305	0.0098	24	6.3	850	467
Control	—	0.0	0.0	20	22.0	777	445

caries when stannous chloride was added to the drinking water, and a greater reduction, when stannous fluoride was added.

It follows from the foregoing that the caries-reducing effect of stannous fluoride will depend to no small extent on the degree to which the stannous ions are acquired by the enamel. If there is no uptake of tin, a therapeutic effect beyond that afforded by the available fluoride is most unlikely. Therefore, since there was no measurable uptake of tin from the toothpaste tested, its effect would be no greater than that produced by the fluoride alone.

It is probably fortunate that there is little or no uptake of tin from the stannous fluoride toothpaste, because the presence of tin compounds in the enamel may cause discoloration. This is indicated by tests in our laboratory which showed that stannous-fluoride-treated teeth turn brown when exposed to hydrogen sulfide. Evidently, a brown sulfide, known to be rather insoluble, is formed under these conditions. The extent to which this or similar reactions will occur in the mouth can only be answered by clinical studies.

Because of the significance of the presence of tin in the enamel, it seems desirable to consider the conditions which favor tin uptake. As already mentioned, tin occurs in the average daily diet in an amount of approximately 1 mg., yet only infinitesimal amounts of tin are normally found in teeth. This is corroborated by the low tin values in our control samples. Therefore, the uptake of tin under physiological conditions must be exceedingly small. In the present study, the greatest amount of tin was acquired by the enamel at the lowest pH, and there was no uptake at the nearly neutral pH 6 of the stannous fluoride toothpaste. It is evident, from our results, that tin uptake is greater under acid conditions, and that uptake from a nearly neutral dentifrice is unlikely.

Our results showed no significant uptake of fluoride from the dilute solution of stannous fluoride or the stannous fluoride toothpaste slurry. These negative findings do not necessarily contradict the observation of Muhler that brushing with the stannous fluoride paste reduced dental caries. Repeated use of the paste would obviously result in a more prolonged fluoride exposure than the 20 minutes employed in our study, and a measurable fluoride uptake might thus eventually be achieved.

It should also be considered that fluoride is known to be more readily picked up by acid etched and partly demineralized enamel such as is found in early carious lesions than by intact enamel which was used in our experiment.[16,17] Therefore, fluoride from a fluoride toothpaste may well be deposited in decalcified areas, including white spots and other initial enamel lesions, without necessarily causing a significant increase in the fluoride content of intact enamel. This may result in a retardation or arrest of the carious process.

Contrary to the findings of Muhler and Hatton, the greatest fluoride uptake in our tests was obtained from the nearly neutral solution of sodium fluoride, and smaller amounts were obtained from the acid solutions of stannous chlorofluoride and stannous fluoride. The following factors may have contributed to the difference between previous findings and our results:

1. Although the stannous fluoride solutions were freshly made, precipitation of stannous hydroxyfluoride due to hydrolysis may have taken place during exposure of the teeth. Therefore, the amount of available fluoride may have been greater in the sodium than in the

16. Myers, H. M.; Hamilton, J. G., and Becks, H. Tracer study of the transfer of F^{18} to teeth by topical application. J.D. Res. 31:743 Dec. 1952.

17. Hein, J. W., and others. In vitro studies of the uptake of fluoride on tooth surfaces from 1 ppm radioactive fluoride solutions. (Abst.) J.D. Res. 33:661 Oct. 1954.

stannous fluoride solutions. Incidentally, a similar hydrolysis may be expected to take place when stannous fluoride is used in the mouth.

2. It is possible that the external enamel was partly dissolved or softened by the acid-stannous fluoride solutions, and that enamel thus affected was removed from the teeth during the washing procedures. Such removal of enamel would also result in removal of fluoride, which is deposited in greater concentrations in the outermost than in subsurface enamel. As opposed to our study in which intact enamel was employed, Muhler and associates used powdered enamel and did not apply our rigorous washing procedures.

3. A low pH is known to favor uptake from low concentrations of fluoride, because, at low concentrations, the fluoride and hydroxyl ions compete for a place in the apatite lattice, and fluorapatite is formed. At the high concentrations of fluoride used in the present study, fluoride must have been mainly acquired in the form of calcium fluoride. The effect of pH on this reaction has not been established.

4. In the present study care was taken, insofar as possible, to grind off exceedingly thin enamel layers of uniform thickness. Inclusion of too much subsurface enamel would lower the fluoride figures since the reaction of fluoride with the enamel is confined primarily to the outermost enamel. Incidentally, the teeth employed in this study came from persons in all age groups. In all likelihood the fluoride uptake may be increased or decreased by using teeth from young or very old persons.

SUMMARY

1. Intact enamel was exposed to solutions of stannous fluoride, stannous chlorofluoride, sodium fluoride and a suspension of a commercially available stannous fluoride toothpaste.

2. Both tin and fluoride were taken up from solutions of stannous fluoride and stannous chlorofluoride, but no significant uptake could be detected from the stannous fluoride toothpaste.

3. The uptake of tin was greatest at a low pH and appeared to be absent at the nearly neutral pH of the stannous fluoride paste.

4. More fluoride was taken up from solutions of sodium fluoride than from the solutions of stannous fluoride; both solutions contained the same amount of fluoride.

5. Stannous fluoride treated teeth became brown on exposure to hydrogen sulfide.

ADDENDUM

Experiments performed after this paper was submitted for publication showed that small amounts of tin were taken up from a more recent sample of the toothpaste. The tin uptake may be related to the lower pH of 5.3 of this paste as compared to the pH of 6.0 in the previous sample tested. It is possible that the formula of the toothpaste was changed or that the product is unstable. In these tests acquisition of tin by the enamel was detected by treating the exposed enamel with hydrogen sulfide which produced a brown discoloration (formation of tin sulfide).

Man and His Fate • Concern for man himself and his fate must always form the chief interest of all technical endeavors. Never forget this in the midst of your diagrams and equations. *Albert Einstein, Ideas and Opinions.*

Roentgenologic interpretation of anatomic lines of the maxillary sinus

E. E. Petersen, D.D.S., M.S.D., Minneapolis

To interpret roentgenograms correctly, the dentist must be able to differentiate between lines and shadows caused by anatomic structures and those caused by pathologic processes. Among the most misunderstood lines in roentgenography are those caused by the maxillary sinus. Perhaps they would be understood better if the tissues in the roentgenograms were conceived of in three dimensions. Because of the depth of the maxillary sinus, its structures, on the flat surface of a roentgenogram, are superimposed one over another. If the dentist mentally separates the shadows and lines of these structures into their proper depth relationships, he will be able to interpret the film better.

RELATIONSHIP OF STRUCTURES

The floor of the maxillary sinus is saucer-shaped, dipping between the buccal and lingual roots of the first and second molars and rolling slightly over the tips of their roots. The roots of the maxillary teeth rarely project into the maxillary sinus, and often do not even come close to the floor of the sinus.[1,2] The roots of the maxillary teeth generally make only slight pimple-like projections on the floor of the antrum.

Three skulls were examined in which roots of the maxillary teeth made only slight undulations on the floor of the sinus. Four roentgenograms were made while the skulls and the films were positioned exactly the same. Only the inclination of the roentgen ray was varied gradually from 20 degrees (Fig. 1, left) to 40 degrees (Fig. 1, right). Thus it can be seen that the angle of projection of the roentgen rays will affect the apparent relation between the roots and the sinus line. This same experiment was carried out on patients, using one high and one low projection of the roentgen rays. The results were the same as those obtained with the skulls.

The only structure that will show on a roentgenogram is the one which has more or less density than the surrounding structures. The only part of the maxillary sinus which will show as a line is that portion of the bony wall which presents a cross section of cortical bone to the roentgen rays. Since the maxillary sinus is rounded in its lower aspect and dips between the buccal and lingual roots, and since the roentgen rays will have a downward inclination, the roentgenogram will register some portion of the sinus floor which lies buccal or lateral

Assistant professor, oral roentgenology, School of Dentistry, University of Minnesota.

1. Schaeffer, J. P., editor. Morris' Human anatomy. Philadelphia, Blakiston Co., 1942.

2. Morgan, G. A. Maxillary sinus. Normal relationships. Oral Health 28:421, 1938.

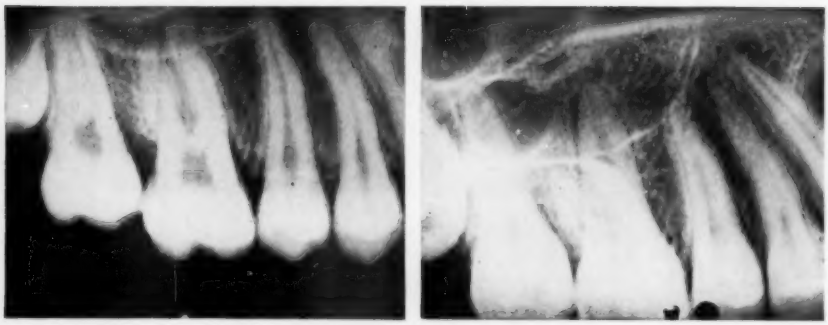


Fig. 1 • Left: Roentgenogram taken at 20 degrees' inclination. Note position of buccal roots slightly above line of maxillary sinus and lingual root in close relation to line of sinus. Right: Roentgenogram taken at 40 degrees. Note position of buccal roots slightly below line of maxillary sinus and lingual root at its greatest distance above line of sinus

to the long axis of the molar teeth and which is sloping upward and laterally. The maxillary sinus line will change its position on the film according to the point where the roentgen rays are tangential to the upward lateral slope of the sinus wall. The sinus wall (Fig. 1, left) was intersected near its lowest point by a roentgen ray inclined to 20 degrees. This would be the lowest, most medial registration of the floor of the sinus. In Figure 1, right, the rays intersect the floor of the sinus at its highest, most lateral point.

Figure 2, left, shows a longitudinal section of an upper molar with the floor of the maxillary sinus indicated between the roots. The solid horizontal lines indicate those rays of a roentgen beam which will register the tips of the roots on the film. The dotted line represents the roentgen rays which will register the floor of the maxillary sinus on the film. At this steep inclination the distance between the end

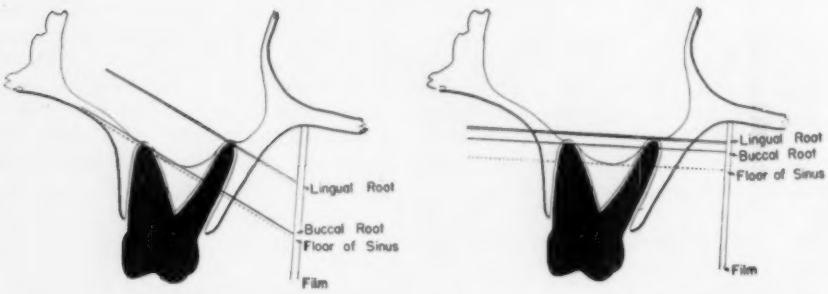


Fig. 2 • Left: Longitudinal section of upper molar. Note relation of roots and maxillary sinus with steep inclination of roentgen ray. Right: Longitudinal section of upper molar. Note relation of roots and maxillary sinus with low inclination of roentgen ray

of the lingual root and the sinus line is great as seen on the roentgenogram, whereas the distance between the tip of the buccal root and the sinus line is small. When the relationship of these structures on the roentgenogram is compared with the actual relationship in the illustration, it can be seen that the apparent projection of the lingual root into the sinus is an illusion.

Figure 2, right, shows the same longitudinal section with a very low projection of the roentgen rays. The area indicated on the floor of the sinus now moves medially as compared with the previous illustration, whereas the tip of the lingual root appears to be closer to the floor of the sinus and the tip of the buccal root now appears to project more into the sinus. Thus by changing the inclination of the roentgen beam, the apparent relationship of these structures to each other is changed. The lowest practicable inclination of the roentgen rays will produce the truest registration of the maxillary sinus region.

CONCLUSION

The apparent projection of tooth roots into the maxillary sinus, as seen on roentgenograms, is, for the most part, an illusion. An understanding of the structures that form the lines and shadows on the roentgenogram, of where they lie in relation to each other, and of how the lines and shadows come to lie as they do, will facilitate the interpretation of roentgenograms. The most accurate roentgenogram of the maxillary sinus region is made with the lowest practicable inclination of the roentgen rays which would be nearly perpendicular to the long axis of the tooth.

Rushing into Print • There is much complaint today concerning the amount of scientific literature that each scientist must read if he is to keep pace with his own subject. There are many reasons for this overwhelming spate, not the least of which is the overenthusiasm of scientists themselves. Too many of them imagine that just because they have written a scientific paper it is worthy of publication. The result is that the whole field of our literature extends over a wide range of scientific merit.—*L. J. F. Brimble, Nature (London).*

Principles of resuscitation in the dental office

Max S. Sadove, M.D., Chicago, and Gordon M. Wyant, M.D., Saskatoon, Canada

The basic physiological principles of resuscitation have been well recognized and are being applied by the medical profession.[1] Clinical and technical improvements are constantly being introduced, however, in order to make resuscitation more effective and thus to save an ever increasing number of lives. In discussing resuscitation as it may be practiced by the dentist, it must be remembered that because of the physical limitations imposed by the dental office, the limitation of equipment available, and the fact that, in the large majority of instances, his medical training and experience are limited, the dentist will be restricted in his diagnostic and therapeutic endeavors. Although some of the more intricate resuscitative maneuvers cannot, therefore, be carried out under office conditions, the basic principles remain unchanged.

Effective resuscitation depends on two primary requirements: (1) realization that an emergency exists and that immediate remedial steps are required, and (2) a definite plan of action, formulated ahead of time, so that confusion and delay in treatment are minimized.

Resuscitative therapy is accomplished in two phases. The immediate phase comprises a rapid evaluation of the patient's condition and steps to restore and maintain vital functions. This is the phase with which the dentist may have to deal from time to time in his office. The second phase of treatment consists of making an accurate diagnosis, instituting specific therapy, and preventing complications. Obviously this phase is one which may be deferred for a reasonable period of time, until the services of a medical practitioner can be obtained. Its completion requires time, and frequently the employment of special diagnostic aids. The second phase will therefore not be elaborated here in detail.

TYPES OF ACCIDENTS

A relatively large number of situations may arise in the dental office in which resuscitation is required, but only two constitute the large majority. The first of these is syncope. This condition, which generally is referred to as "fainting," has been defined as "temporary loss of consciousness due to cerebral anemia." Among the predisposing factors of interest to the dentist are pain, surgical instrumentation, emotional disturbance, and dehydration which may occur in hot weather. Syncope is frequently preceded by premonitory signs such as weakness, giddiness, faintness and profuse sweating.

This paper has been approved for publication by the Council on Dental Therapeutics.

From the department of surgery (anesthesiology), University of Illinois College of Medicine, and from the department of anaesthesia, University of Saskatchewan, College of Medicine.

1. Sadove, M. S., and Katz, D. Physiologic principles of resuscitation. New York State J. Med. 53:1757 Aug. 1, 1953.

The pulse is rapid at this stage, and if the condition is allowed to progress, loss of consciousness supervenes. Involuntary micturition and defecation may occur before consciousness returns. Since loss of consciousness may occur also from any of a variety of organic diseases, it is important to be reasonably certain from the patient's history that no such disease is present before making the diagnosis of simple "fainting."

Uncomplicated syncope is a relatively benign accident and is self-limiting in nature; its prevention and treatment are accomplished by relatively simple maneuvers. During the premonitory stage the patient is instructed to lower his head between his knees. A cold wet compress to the forehead is of benefit. If consciousness has actually been lost, the patient is placed in the recumbent position, preferably with a slight head-down tilt, or with legs elevated. If consciousness does not return promptly, inhalation of aromatic spirits of ammonia is indicated, as is the administration of oxygen.

Probably the next most important condition requiring resuscitation in the dental office consists of reactions to local anesthetics. There are numerous other conditions, however, which may be the cause of such accidents. Incorrect sedation, either excessive or inadequate; the previous use of depressor agents for hypertension or of cortisone; cardiac accidents, such as coronary thrombosis or attacks of angina pectoris; diabetic or insulin coma; an overactive carotid sinus mechanism; cerebro-vascular accidents; hysteria; overdose of anesthesia; epilepsy and other types of convulsions—these are just a few which may on rare occasions cause trouble.

BASIC PHYSIOLOGIC PRINCIPLES

Life and health depend in the last resort on the normal progress of the cells which make up the various organs and tissues of the body. Some of these organs, such as heart, kidneys, and brain, are more essential than skin, muscle and bone, for instance. The more specialized its function, the less resistant is the cell to changes in its environment. In order to maintain cellular viability, it is essential that an adequate supply of oxygen be present at all times to permit oxidative and other enzymatic processes to continue uninterrupted. Hence the primary need during resuscitation is to maintain this oxygen supply to vital organs. Two systems are primarily concerned in the transport of oxygen: breathing, which supplies the necessary oxygen to the lung alveoli and thence to the pulmonary capillaries, and circulation which then carries the oxygenated blood to all the parts of the body for utilization. The basic objective, then, of the immediate phase of resuscitation is to maintain or restore an adequate oxygen transport system by support of respiration and circulation.

The oxygen transport system can be interrupted at various stages and by diverse mechanisms. An inadequate supply of oxygen into the inhaled atmosphere will cause an insufficient amount of oxygen to be available to the circulation. The same holds true when respiration is obstructed or depressed. Both these contingencies may arise during general anesthesia, and obstructions may occur furthermore in all other states of unconsciousness. In some certain cases, disease of the lungs may interfere with adequate diffusion of oxygen into the circulation. In all these states, the accumulation of carbon dioxide (hypercarbia) further aggravates the lack of oxygen (hypoxia).

Again, despite adequate availability of oxygen to the blood, circulation may be impaired because of heart disease or shock, or because there is a diminished amount of hemoglobin available for the carriage of oxygen, as occurs in anemia. Pre-existing shock is not likely to be encountered in the dental office, but heart disease and anemia are definite possibilities. All circulation may be entirely at a

standstill as in cardiac arrest, or breathing only may be in abeyance, requiring only artificial respiration.

HISTORY, PHYSICAL EXAMINATION, PREPARATION OF THE PATIENT

Many of the more serious accidents can be avoided by merely taking a thorough history from the patient. A history of frequent previous fainting episodes will put the operator on his guard against a recurrence of this phenomenon. A history of a previous reaction to local anesthetics will warn the dentist that trouble may again be in store, and it will be well to elicit information from the patient as to the identity of the local anesthetic drug employed on that previous occasion. If such information is available, it will be prudent to use another local anesthetic of different chemical configuration or, better still, to avoid local anesthesia altogether.

Because of the importance of such information a patient should always be told what drug has been used in case of a reaction, so that he may be able to impart this information to any future operator. He should also be given a letter describing accurately the type of reaction he experienced.[2]

Inquiry should always be made of the patient to ascertain if any drugs are regularly used or have been prescribed by his physician. The type of drug used may give the dentist information as to whether the patient may suffer from diabetes, heart disease, thyroid dysfunction, and so on. In well advanced cases of rheumatoid arthritis, examination of the patient's hands will show signs of this disease and consequently will put the operator on his guard as to the possibility of the patient's taking cortisone. Frequently, if asked, the patient will volunteer information about any other systemic disease for which he is receiving or has undergone treatment in the past. The operator should inquire whether the patient suffers from chest pain, swelling of ankles, shortness of breath, dizziness, or palpitation, as all these may denote heart disease.

In order to simplify history taking and to save the dentist's time, the office nurse or receptionist may make use of a card on which are the following questions pertaining to medical history:

1. Have you ever had an operation of any type? If so, what was used for anesthesia? Did you have any difficulties or complications of any kind? It is important that this include any minor operations.

2. Have you ever taken any drugs, chemicals or medicines of any kind at any time in the past? What was the agent and how long did you take it?

3. Have you ever seen a physician or surgeon or any practitioner of medicine, and if so, for what cause, and what was done?

4. Do you faint easily? Do you have any shortness of breath, skipping of the heart, heart or lung asthma? Do you sleep using pillows? Do your ankles swell? Do you have any chronic cough? Could you walk up three flights of stairs without shortness of breath?

5. Do you have any disease of any kind, and if so, what is it?

On the basis of the answers to his inquiries, the dentist will gain valuable information, and whenever the patient has been or is under medical care, it would be well for the dentist to obtain clearance from the attending physician.

Although the dentist usually is not equipped to make a definite clinical diagnosis of systemic diseases, there are many signs which may indicate whether his patient is in good health or not. Shortness of breath, cyanosis of lips and finger nails, clubbing of fingers, may be indicative of either cardiac or pulmonary disease; if associated with enlargement of the veins of face and neck, they may mean actual or imminent cardiac decompensation. Swelling of the neck, with tremor of fingers, and sweating of the palm may signify thyroid disease. Puffiness of the

2. Sadove, M. S., and others. Classification and management of reactions to local anesthetic agents. J.A.M.A. 148:17 Jan. 5, 1952.

eyelids and dizziness may be indicative of kidney disease. Pallor, especially of the lips and other mucous membranes recalls the possibility of anemia. A flushed skin, perspiration, and glassy eyes may denote fever. The diagnosis of an impending or actual cold is obvious. The pulse should be observed for rate, filling and regularity. Disease should be suspected if the pulse is abnormally rapid and feeble, or is irregular in either rate or filling.

In all these instances, the patient should be referred to his physician for diagnosis and necessary treatment of his disease, and dental work should be delayed until medical clearance is obtained. Even then it may be advisable in some instances to carry out the dental procedures in a hospital rather than in the office.

In order to minimize accidents from aspiration of vomitus, patients should refrain from taking food or liquids for at least four hours preceding the appointment. This rule applies irrespective of the administration of a general anesthetic, since unconsciousness from any cause carries the risk of aspiration.

Where local anesthesia is planned, premedication with secobarbital (Seconal) or pentobarbital (Nembutal) 0.1 Gm. (1½ grains) one hour before anesthesia will reduce the incidence or severity of reactions to the local anesthetics. Atropine sulfate 0.4 mg. (1/150 grain) should be given 30 minutes before general anesthesia. This agent will diminish salivation and diminish vagal reflexes.

EQUIPMENT

Since resuscitation depends primarily on the re-establishment of an adequate oxygen transport system, means must be available in every dental office for the basic requirements to maintain circulation and respiration. The one single, most useful and universally applicable agent to deal with patients requiring resuscitation is oxygen. This implies the availability of a tank with proper regulator, a mask and a breathing bag all ready for instantaneous use. Furthermore, a series of airways of different sizes should be available, as should also an instrument to pry open the jaw and one to hold the tongue forward out of the posterior pharynx. A source of suction capable of clearing the airway from vomitus is also essential. These few and inexpensive items are all that is needed for adequate control of respiration and to deliver a sufficient amount of oxygen to the pulmonary circulation.

Even less equipment is required for support of circulation. Syringes of 2, 5 and 10 cc. capacity with needles are all that is needed, together with a few drugs (see table).

Epinephrine (Adrenalin) and the various analeptics such as nikethamide (Coramine), pentamethylenetetrazol (Metrazol) and picrotoxin are to be avoided. Caffeine sodium benzoate, a mild analeptic, may be given if desired but probably serves little useful purpose, and the time spent in its administration may be more efficiently utilized.

Epinephrine, which for many years has been a standard part of the practitioner's armamentarium in an emergency, deserves special comment. This drug has a real use in the dentist's office as a local vasoconstrictor. It is a very useful drug in status asthmaticus and in angioneurotic edema or similar allergic states, but here its usefulness ends. It is a drug which has the following definite disadvantages: it causes an extremely rapid and undesirably high elevation of blood pressure, and frequently extreme tachycardia. This causes a considerable increase in the work of the heart and may lead to an arrest of the heart due to ventricular fibrillation. It also causes tremors, shaking chills, anxiety and nervousness. The oxygen utilization is increased by the drug at a time when the supply may be limited. Above all else, there are safer analeptics that act rapidly with less side actions—

an example would be phenylephrine (Neo-Synephrine).

It should be emphasized here that every dental office should be equipped with a chair which can quickly and easily be tilted into the horizontal position, as this is a prerequisite for successful resuscitation. A stethoscope and sphygmomanometer would be advantageous if the dentist has the training to use them.

RESUSCITATIVE MEASURES

Whatever the emergency requiring resuscitation, a number of basic steps should always be taken. The patient should be placed immediately in the horizontal position on his back, preferably by rapid adjustment of the chair. It is of advantage to tilt the patient in a slight head-down position, or else to elevate the legs, in order to facilitate return of blood to the heart and increase the blood supply to the brain by means of gravity. The central nervous system is the first to suffer from oxygen lack and the position just described will shunt blood to the brain at the expense of less critical organs. He is allowed to inhale aromatic spirits of ammonia. Oxygen is administered immediately by mask, and if respiration is inadequate, as judged by shallow respiration, or if air hunger exists, as indicated by rapid, effortful breathing, respiration is assisted by compressing the breathing bag, synchronous with the patient's own respirations.

If no respiratory effort is being made, the mask is firmly applied to the patient's face and artificial respiration is performed by slow, rhythmical compression and sudden relaxation of the bag at the rate of 16 to 20 strokes per minute. In the latter instance, consciousness will have been lost and care must be taken to maintain an unobstructed airway. This is best done by holding the chin forward. In this maneuver, the middle fingers are inserted behind the angles of the mandible, while thumbs and index-fingers secure the mask against the face.

The airway may be further improved by turning the head to one side or the other. If this fails to maintain absolutely unobstructed breathing, an artificial airway of suitable size should be inserted in such a way that the curved end of the airway comes to lie between the base of the tongue and the posterior pharyngeal wall. Too short an airway may actually increase the obstruction by pressing upon the dorsum of the tongue and forcing the base of that organ to be pressed against the pharynx.

A free airway and adequate ventilation having thus been assured, a rapid check should be made of the state of circulation. In the majority of instances where

Table • Drugs to be available in the office

Drug	Quantity	Action	Purpose
Phenylephrine HCl (Neosynephrine)*	2 mg. of 0.2% per ml.	Vasopressor	Support circulation
Hyaluronidase	150 T. U.	Spreading factor	Promotes diffusion and hastens absorption of subcutaneous and intramuscular injections
Sodium thiopental (Pentothal)	0.5 Gm.	Ultra-short-acting hypnotic	Combat convulsion
Dextrose in water or normal saline	250 ml. (cc.)	———	To dissolve thiopental into 0.2% solution
Secobarbital (Seconal) or Pentobarbital (Nembutal)	0.1 Gm. (gr. 1½)	Hypnotic	Orally for preoperative sedation
Atropine sulfate	0.4 mg. (gr. 1/150) per ml.	Vagolytic	Preoperative medication
Aromatic spirits of ammonia	———	Vasomotor stimulant	Syncope

*Phenylephrine is recommended in preference to the many other vasopressors available, as it is a potent drug and one of the universally most useful agents of its kind.

mere fainting has occurred, the patient will regain consciousness within a very few minutes after being placed supine, frequently even before oxygen administration has begun. Nevertheless, oxygen administration should be instituted until the patient is fully conscious and the pulse is of good volume and slow rate. Such a patient should not be allowed to sit up for some time and then should only slowly and gradually be allowed to elevate the head until he is able to sit without recurrence of symptoms.

If a patient has ceased to breathe spontaneously and oxygen is not available, artificial respiration should be instituted. In choosing a suitable method it should be borne in mind that it is better to place the patient in a face-down position with the head turned to one side as this will more certainly promote a free airway without special precautions, and will also allow saliva and vomitus to drain away rather than be aspirated. The various available methods of artificial respiration have been thoroughly investigated and it has been found that, all else being equal, the arm-lift back-pressure or arm-lift chest-pressure technics will give the best tidal volume with less exertion on the part of the operator. For a detailed description of these and other methods, the reader is referred to the work of Gordon, Sadove, Raymon and Ivy.[3,4]

If, despite these measures, the patient shows no improvement, and evidence of circulatory impairment becomes obvious, treatment must be undertaken to combat the failing circulation. Usually the intravenous injection of a vasopressor is required, and this should be done. It is recommended that preferably phenylephrine hydrochloride (Neo-Synephrine) should be injected intravenously in a dose not exceeding 2 mg. If facilities for intravenous injections are not available, phenylephrine hydrochloride 5 mg. should be combined with 150 turbidity-reducing units of hyaluronidase, and this combination injected deeply intramuscularly. Response to the intramuscular injection is very much less prompt than it is to intravenous injection. Hyaluronidase increases the spread and absorption of these agents, but probably at least ten minutes will elapse before a significant result is obtained. If hyaluronidase is not available, the injection should nevertheless be proceeded with, but a corresponding delay in effect must be expected.

Reactions to local anesthetics[2] will frequently show the symptomatology of cardio-respiratory failure and should be treated along the line indicated above. However, if the reaction is one in which central nervous system stimulation is predominant over depression, as evidenced by muscle twitching or convulsions, the stimulating effect of the local anesthetic drug should be counteracted by a cortical depressant such as sodium thiopental (Pentothal). Oxygen therapy must be continued throughout. It is suggested that a 0.2 per cent solution of thiopental be prepared by dissolving 0.5 Gm. in 250 ml. of sterile water (or 5 per cent dextrose in water or normal saline) and just enough of this solution be injected intravenously slowly until all signs of muscle twitching has disappeared. The amount needed to just control the muscle twitching should under no circumstances be exceeded. This solution must be given intravenously and cannot be injected intramuscularly or subcutaneously.

If complete circulatory standstill is suspected, on the ground of absence of heart tones over the precordial region, atropine and phenylephrine should be injected intravenously in the hope that a weak circulation is present which will carry the drug to the effector organs. No benefit can be expected from this maneuver if cardiac arrest has actually resulted. On

3. Gordon, A. S., and others. Critical survey of manual artificial respiration. J.A.M.A. 147:1444 Dec. 8, 1951.

4. Gordon, A. S., and others. Artificial respiration. Postgrad. Med. 11:528 June 1952.

rare occasions, percussion over the region of the heart may restart this organ but this procedure cannot be relied on as being invariably successful. If one is absolutely certain that the heart has ceased to beat, an attempt may be made to stimulate it by introducing a needle directly into the heart through the space between the third and the fourth rib on the left side of the sternum. The injection of drugs is not required, as the heart, if it responds at all, will frequently resume action because of the stimulus alone. Should the heart fail to respond, then epinephrine 0.1 cc. of 1:1,000 solution may be injected into the heart. However, this must be done within the first three minutes.

No attempt is made here to go into the details of manual systole (cardiac massage), fluid administration, blood transfusion, and so on, as none of these maneuvers can be carried out in the dentist's office. The facilities for this type of treatment usually are not available in a dental office.

In all treatment involving resuscitation, it must be borne in mind constantly that an adequate amount of oxygen must be supplied to vital tissues and that the brain is the organ most vulnerable to oxygen lack. Hence, consciousness is lost early in all cases of oxygen want. It is of the utmost importance, therefore, that an adequate supply of oxygen be maintained to this very sensitive organ, as otherwise irreparable damage to nervous tissue will ensue which is not compatible with life or with restoration of full nervous function. The steps outlined herein should assure this end within the obvious limitations of the dental office set-up.

SUMMARY AND CONCLUSIONS

Most accidents in the dental office are of a minor nature and will respond to the procedure of placing the patient into the supine horizontal position with legs elevated and oxygen must be administered. Rarely will stimulants and vasopressors be required, but if the patient fails to respond to the administration of oxygen, they should be employed without hesitation. It must be remembered that the adequate supply of oxygen to vital organs depends on the integrity of the respiratory and circulatory systems. If a catastrophe of the magnitude of cardiac arrest does arise in the office, the chances of salvaging the patient are extremely small. Yet, the few maneuvers available to the dentist under those circumstances should nevertheless be employed.

Much difficulty can be avoided by taking a good history and by obtaining medical clearance in all doubtful cases. Every patient who has required resuscitation should be referred to a physician's care so that the underlying condition for the accident may be evaluated and the necessary precautionary treatment may be instituted if organic disease is present.

Nothing is said in this paper regarding the second phase of resuscitation, that of specific therapy and prevention of complications, since this is outside the category of emergency treatment, and involves procedures for which the dentist usually is not equipped.

Instrumentation • The reason we are now on a more imaginative level is not because we have finer imaginations, but because we have better instruments. In science the most important thing that has happened is the advance in instrumental design. *Alfred North Whitehead.*

Cases and Comments

FAILURE OF TOOTH REPLANTATION

By Harry Roth, D.D.S., New York.

Successes in replantation and implantation of teeth have been reported in the literature. Failures have not been reported, so that the profession may be left with the erroneous impression that these replanted teeth remained in the mouths of patients in a healthy state for many years. Several failures have been observed, however. Apparently a replanted tooth constitutes a foreign body with complete loss of circulation. It is exfoliated either because of root resorption or because of complete lack of reattachment. The roots float in infected sockets and are retained solely by means of the ligature. The following report is an example of such failure.

A woman patient, aged 32, with a number of loose teeth, asked that replantation be done. Two years later, it was clear that the procedure had been unsuccessful.

Clinical examination with the aid of study casts and a full series of roentgenograms revealed masses of enlarged tissue especially around the replanted teeth. These replanted teeth were retained by heavy grassline ligature (Fig. 1). The patient was advised to have the maxillary left cuspid, first bicuspid, first molar and the maxillary right lateral incisor and cuspid extracted. The maxillary right first bicuspid and the maxillary left second bicuspid were considered questionable because of mobility and deep pocket formation. They were retained, however, so that after

Assistant professor of periodontia, New York University College of Dentistry, chief of periodontia, Beth Israel Hospital.

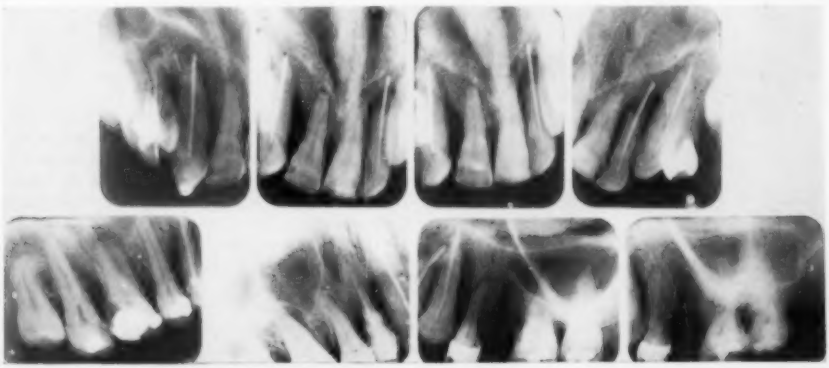
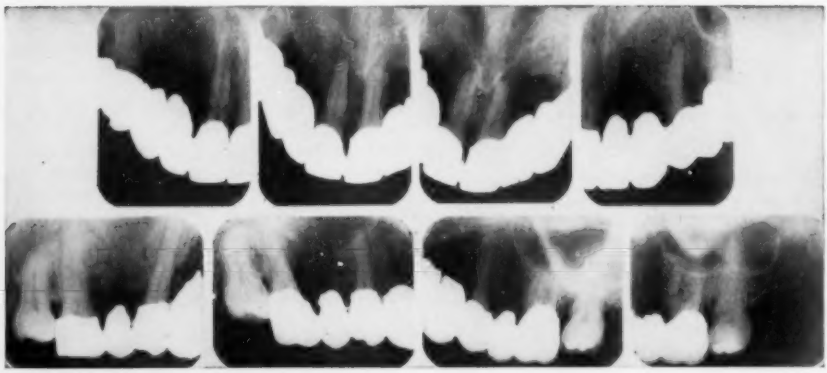


Fig. 1 • Examination reveals infected tissue around replanted nonvital teeth, bony sockets and absence of bone filling two years after replantation



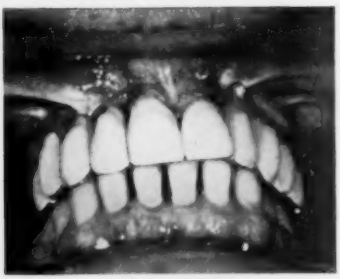


Fig. 2 • Removal of replanted teeth and replacement with fixed denture

treatment they might be used for splinting with the incisor and molar teeth. Calculus was present on the remaining teeth.

Prophylactic procedures were initiated in order to reduce the active inflammation in the mouth. The patient was then referred to her dentist to have a provisional partial denture constructed and to have the hopeless teeth extracted. The patient then returned for completion of prophylactic treatment. Upon completion of periodontal treatment, her dentist constructed a fixed restoration for the entire maxillary arch (Fig. 2).

Many instances of replantation and implantation of teeth have been reported in the literature. Successes when measured from the standpoint of service or health of investing tissues have been rare. Replantations have been prematurely reported and should not be accepted as successful until a few years have elapsed. As guardians of the patient's health, it would be far better to extract hopeless teeth and to construct the proper restorations than to base treatment on less sound principles of dentistry.

156 East 52nd Street

Human Negligence • Minds that are stupid and incapable of science are in the order of nature to be regarded as monsters and other extraordinary phenomena; minds of this sort are rare. Hence I conclude that there are great resources to be found in children, which are suffered to vanish with their years. It is evident, therefore, that it is not of nature, but of our own negligence, we ought to complain. *Marcus Fabius Quintilian.*

97th annual session

Atlantic City, October 1-4

Bernerd C. Kingsbury President
1955-1956

F. J. Herz
First Vice-president

M. C. Hansen
Second Vice-president

M. E. Kennebeck
Third Vice-president

OFFICIAL CALL

To the members of the American Dental Association:

You are hereby notified that the ninety-seventh annual session of the American Dental Association will be held in Atlantic City, N.J., October 1-4, 1956. The scientific session will be held in the Atlantic City Auditorium.

The House of Delegates will convene for the annual business session of the American Dental Association at 10:00 a.m., Monday, October 1; the second meeting will be held at 1:30 p.m., Monday, October 1; the third meeting, at 1:30 p.m., Wednesday, October 3, and the fourth meeting, at 1:30 p.m., Thursday, October 4. All meetings of the House of Delegates will be held in the Atlantic City Auditorium. The Committee on Credentials will register delegates and alternates beginning at 9:00 a.m., Sunday, September 30, in the second floor foyer of the Atlantic City Auditorium.

The annual State Officers' Conference will be held in the Viking Theatre, Haddon Hall Hotel, at 9:00 a.m., Sunday, September 30.

General registration will be held at the Atlantic City Auditorium. Registration booths will be open from 9:00 a.m. to 5:00 p.m., Sunday, September 30, through Wednesday, October 3, and from 9:00 a.m. to 3:00 p.m., Thursday, October 4.

The General Meeting will be held at 7:45 p.m., Tuesday, October 2, in the Warner Theater on the Boardwalk.

At least 60 days prior to the first day of the annual session, the constituent societies and federal dental services must file with the secretary of the Association a list of the names and addresses of delegates and alternates.

Bernerd C. Kingsbury, president
Harold Hillenbrand, secretary

COMMITTEE ON LOCAL ARRANGEMENTS

Eugene R. Westcott, general chairman, The Mayfair, Albany and Atlantic Aves., Atlantic City, N. J.
Stephen M. Lyons, vice-chairman, 382 Springfield Ave., Summit, N. J.
Benjamin Rosenwasser, vice-chairman, 4809 Bergenline Ave., Union City, N. J.
Theodore R. Champlin, secretary-treasurer, 525 Park Ave., Plainfield, N. J.
Daniel F. Lynch, honorary chairman, 1678 Primrose Rd., N.W., Washington, D. C.
Edward R. White, honorary chairman, 921 Bergen Ave., Jersey City

Clinics and Motion Pictures

William A. Themann, chairman, 80 Green St., Madison, N. J.
Herbert N. D. Cahan, vice-chairman, 40 S. Montpelier Ave., Atlantic City, N. J.

Entertainment and Social Events

Pierce A. Quirk, chairman, 921 Bergen Ave., Jersey City
Charles S. Jonas, vice-chairman, Albany and Atlantic Aves., Atlantic City, N. J.

Information

Benjamin A. Brown, chairman, 36 S. California Ave., Atlantic City, N. J.
Jerome B. Goldman, vice-chairman, 44 E. Main St., Mays Landing, N. J.

Publicity

Philip A. Baratta, chairman, 101 S. Frankfort Ave., Ventnor, N. J.
Thomas F. Powers, vice-chairman, 819 Park Ave., Plainfield, N. J.

Reception

William A. Giblin, chairman, 85 Park Ave., Montclair, N. J.
Charles P. Crowe, vice-chairman, 521 Main St., East Orange, N. J.

Women's Entertainment

Mrs. Eugene R. Westcott, Sr., chairman, 3 S. Nassau Ave., Margate, N. J.
Mrs. Philip A. Baratta, vice-chairman, 101 S. Frankfort Ave., Ventnor, N. J.
Mrs. Charles S. Jonas, vice-chairman, 8600 Winchester Ave., Margate, N. J.

SECTION OFFICERS

Anesthesiology

Harold W. Krogh, chairman, 1835 Eye St., N.W., Washington, D. C.
Adrian O. Hubbell, vice-chairman, 123 Atlantic Ave., Long Beach, Calif.

Operative Dentistry

Charles B. Murto, chairman, School of Dentistry, Georgetown University, Washington, D. C.
Herbert D. Coy, vice-chairman, 4530 Park Ave., Richmond, Va.

Oral Surgery

J. Lorenz Jones, chairman, 405 N. Bedford Dr., Beverly Hills, Calif.
Karl H. Wood, vice-chairman, 1835 Eye St., N.W., Washington, D. C.

Orthodontics and Oral Development

George A. Dinham, chairman, Medical Arts Bldg., Duluth, Minn.
Clifford L. Whitman, vice-chairman, 268 Moore St., Hackensack, N. J.

Pedodontics

Ruth E. Martin, chairman, 4559 Scott Ave., St. Louis
William W. DeMerritt, vice-chairman, School of Dentistry, University of North Carolina, Chapel Hill, N. C.

Periodontics

Samuel C. Miller, chairman, 57 W. 57th St., New York
Evert A. Archer, vice-chairman, 55 E. Washington St., Chicago

Practice Administration

Wallace N. Kirby, chairman, 935 Curtis St., Downers Grove, Ill.
Harry M. Klenda, vice-chairman, First National Bank Bldg., Wichita, Kan.

Complete Prosthodontics

Arthur L. Roberts, chairman, Aurora National Bank Bldg., Aurora, Ill.
Vincent Trapozzano, vice-chairman, 3900 Central Ave., St. Petersburg, Fla.

Partial Prosthodontics

Richard L. Simpson, chairman, Medical College of Virginia, Richmond, Va.
Douglas H. Yock, vice-chairman, School of Dentistry, University of Minnesota, Minneapolis

Public Health Dentistry

Polly Ayers, chairman, Box 2591, Jefferson County Board of Health, Birmingham, Ala.
Rulon W. Openshaw, vice-chairman, 6703 Melrose Ave., Los Angeles

Research

Reidar F. Sognnaes, chairman, 188 Longwood Ave., Boston
Alton K. Fisher, vice-chairman, College of Dentistry, State University of Iowa, Iowa City

Roentgenology

Sam W. Williams, chairman, LaSalle Bldg., Minneapolis
Donald T. Waggener, vice-chairman, 800 S. 13th St., Lincoln, Neb.

COUNCIL ON SCIENTIFIC SESSION

Charles S. Kurz, chairman, 550 N. Eighth St., Carlyle, Ill.
David J. Fitzgibbon, 1150 Connecticut Ave., Washington, D. C.
Donald R. Mackay, Lowry Medical Arts Bldg., St. Paul
Walter Monia, 329 N. Wetherly Dr., Beverly Hills, Calif.
Jarvis Williams, 1000 W. 68th Terrace, Kansas City, Mo.

COMMITTEE ON LOCAL ARRANGEMENTS

E. R. Westcott General chairman

S. M. Lyons
Vice-chairman

D. F. Lynch
Honorary chairman

E. R. White
Honorary chairman

T. R. Champlin
Secretary-treasurer

B. Rosenwasser
Vice-chairman

W. A. Themann Chairman
Clinics and
Motion Pictures

H. N. Cahen
Vice-chairman
Clinics and Motion Pictures

P. A. Quirk Chairman
Entertainment

C. S. Jones Vice-chairman
Entertainment

B. A. Brown Chairman
Information

J. B. Goldman
Vice-chairman
Information

P. A. Baratta Chairman
Publicity

T. F. Powers Vice-chairman
Publicity

W. A. Giblin Chairman
Reception

C. P. Crowe Vice-chairman
Reception

SECTION CHAIRMEN

J. L. Jones
Oral Surgery

G. A. Dinham
Orthodontics
and Oral Development

H. W. Krogh
Anesthesiology

Ruth E. Martin
Pedodontics

C. B. Murto
Operative Dentistry

S. C. Miller
Periodontics

W. N. Kirby
Practice Administration

A. L. Roberts
Complete Prosthodontics

R. L. Simpson
Partial Prosthodontics

Polly Ayers
Public Health Dentistry

R. F. Sognnaes
Research

S. W. Williams
Roentgenology

COUNCIL ON SCIENTIFIC SESSION

W. Monia

C. S. Kurz Chairman

J. Williams

D. J. Fitzgibbon

D. R. Mackay

Essay program

Monday, October 1

SECTION ON PRACTICE ADMINISTRATION

Room S
2:00 p.m.

Wallace N. Kirby, presiding

Symposium: Efficiency in dental practice

Selection of patients
Robert N. Tanis, Alexandria, Va.

Efficient appointment scheduling and office routine
Clyde L. Stroup, Fairfield, Ill.

Efficient use of services of associates in group practice: its problems and its advantages
Alfred J. Peetz, Madison, Wis.

Efficient technics used for extending service
S. Meigs Jones, Kansas City, Mo.

SECTIONS ON ANESTHESIOLOGY AND OPERATIVE DENTISTRY

Room B
2:00 p.m.

Harold W. Krogh, presiding

Symposium: Anesthesia for operative dentistry

Drugs and methods used in local anesthesia
Mellor R. Holland, Minneapolis

Drugs and methods used in inhalation anesthesia
E. Reed Smith, Washington, D. C.

Control of apprehension and pain in operative procedures related to restorative dentistry
Lewis Fox, South Norwalk, Conn.

SECTION ON PERIODONTICS

Room E
2:00 p.m.

Samuel C. Miller, presiding

Basic considerations in the relation of periodontal diseases to public health
Clifton O. Dummett, Anchorage, Alaska

Rational approach to periodontal surgery
Melvin L. Morris, New York

Indications and technics for subgingival curettage
Erwin M. Schaffer, Minneapolis

SECTION ON COMPLETE PROSTHODONTICS

Room C
2:00 p.m.

Arthur L. Roberts, presiding

Basic principles necessary to obtain correct impressions for complete dentures
Samuel S. Cohen, Cleveland

Registration of maxillomandibular relations and muscle physiology (electromyographic analysis)
Harry Shpuntoff, Jackson Heights, N. Y.

Positioning of anterior teeth in complete dentures
Frank J. Kratochvil, Great Lakes, Ill.

SECTION ON RESEARCH

Room A
2:00 p.m.

Reidar F. Sognnaes, presiding

Symposium: Oral cancer—clinical implications of recent research

Precancerous lesions
David Weisberger, Boston

Predisposing factors in oral cancer
Seymour J. Kreshover, Richmond, Va.

Experimental production of oral malignancies
Barnet M. Levy, New York

Correlation between clinical and experimental cancer research
Hamilton B. G. Robinson, Columbus, Ohio

Role of saliva and other local environmental factors in oral carcinogenesis
Paul Goldhaber, Boston

Tuesday, October 2

SECTION ON ANESTHESIOLOGY

Room C
9:30 a.m.

Harold W. Krogh, presiding

Treatment and prevention of emergencies incidental to local and general anesthesia and antibiotics
Leonard M. Monheim, Pittsburgh

Dental treatment of the physically or mentally handicapped under controlled anesthesia
Boyd F. Sprague, Portland, Ore.

Variations in the anatomic structures of the face and their importance in local anesthesia
William A. Cook, Midland, Mich.

SECTION ON OPERATIVE DENTISTRY

Room S
9:30 a.m.

Charles B. Murto, presiding

Symposium: Present day endodontic practices
Moderator: Irwin A. Epstein, St. Paul

Fundamentals to be considered in endodontics
Irwin A. Epstein, St. Paul

Conservative approach to endodontic treatment
E. Alan Lieban, New York

Surgical approach to endodontic treatment
J. Henry Kaiser, Columbus, Ohio

Bleaching of the pulpless tooth
Hyman H. Pearson, Montreal, Canada

SECTIONS ON ORAL SURGERY AND PERIODONTICS

Room B
9:30 a.m.

J. Lorenz Jones, presiding

Differential diagnosis of temporomandibular joint pain
Jack B. Caldwell, San Francisco

Occlusion in temporomandibular joint pain
Ernest R. Granger, Mount Vernon, N. Y.

Treatment of temporomandibular joint pain
Fred A. Henny, Detroit

SECTION ON ORTHODONTICS

Room A
9:30 a.m.

George A. Dinham, presiding

Preventive orthodontics for the general practitioner
Thomas K. Barber, Chicago

Limited orthodontics in general practice
Glenn E. Jackson, Evanston, Ill.

Pedodontics as related to preventive orthodontics
Kenneth E. Wessels, Iowa City

SECTION ON PEDODONTICS

Room E
9:30 a.m.

Ruth E. Martin, presiding

Operative procedures for children including the handicapped child
Kenneth E. Lawrence, Kansas City, Mo.

Pulp management for the child patient
Melvin Noonan, Birmingham, Mich.

Injuries to the deciduous and young permanent anterior teeth
Norman H. Olsen, Chicago

SECTIONS ON OPERATIVE DENTISTRY AND RESEARCH

Room S
2:00 p.m.

Charles B. Murto, presiding

Panel discussion: Current status of high speed, super speed and ultrasonic cutting instruments
Moderator: Henry M. Tanner, Bethesda, Md.

Characteristics of rotating instruments
(speaker to be named)

Evaluation of water coolants on cutting instruments
Floyd A. Peyton, D.Sc., Ann Arbor, Mich.

Operative procedures performed in a washed field
John A. Anderson, Chicago

Clinical observations of super speed (150,000 rpm) cutting instruments for one year
Roderick A. McEwen, Atlanta, Ga.

Additional reports on the biologic response to ultrasonic vibration cutting
Arne G. Nielsen, Bethesda, Md.

SECTION ON ORAL SURGERY

Room B
2:00 p.m.

J. Lorenz Jones, presiding

Treatment of acute oral infections and management of dry sockets
Conrad L. Inman, Baltimore

Ridge extension—indications and technics
Gustav O. Kruger, Jr., Washington, D. C.

Present status of antibiotics for oral surgical cases
Stanley A. Lovestedt, Rochester, Minn.

SECTION ON PRACTICE ADMINISTRATION

Room A
2:00 p.m.

Wallace N. Kirby, presiding

Panel discussion: Health problems of the dentist
Moderator: Charles H. Patton, Philadelphia

The senior dentist
Edward L. Bortz, M.D., Philadelphia

The allergic dentist
Malcolm W. Miller, M.D., Philadelphia

The dentist and focal infection
Louis E. Silcox, M.D., Philadelphia

The dentist and his genitourinary system
Charles Uhle, M.D., Philadelphia

SECTION ON COMPLETE PROSTHODONTICS

Room C
2:00 p.m.

Arthur L. Roberts, presiding

Temporomandibular joint and occlusion
L. Laszlo Schwartz, New York

Prosthetic restorations associated with abnormal jaw relations
Arthur R. Frechette, Camp Pendleton, Calif.

Physiological tooth arrangements in the natural dentition and in successful prosthetic dentures
Bernard Jankelson, Seattle

SECTION ON PARTIAL PROSTHODONTICS

Room E
2:00 p.m.

Richard L. Simpson, presiding

Planning posterior bridges
John D. Adams, St. Louis

Dentistry's zone of silence
L. Walter Brown, Jr., Boston

Indications, limitations and technics for use of porcelain veneers fused to cast gold crowns and copings
John F. Johnston, Indianapolis

Wednesday, October 3

SECTIONS ON OPERATIVE DENTISTRY AND RESEARCH

Room S
9:30 a.m.

Charles B. Murto, presiding

Symposium: Pitfalls in handling filling materials
Moderator: George C. Paffenbarger, Washington, D. C.

Inlay casting gold alloys
Norman C. Carlson, Lincoln, Neb.

Amalgams
Robert B. Wolcott, San Diego

Silicate cement and direct filling resins
Herbert D. Coy, Richmond, Va.

SECTIONS ON PEDODONTICS AND ANESTHESIOLOGY

Room E
9:30 a.m.

Ruth E. Martin, presiding

Panel discussion: Anesthesia for the child patient
Moderator: Harold K. Addelston, New York

General anesthesia and premedication
Manuel M. Album, Philadelphia

Local anesthesia
Sidney M. Kronfeld, New York

Hypnodontics
Aaron A. Moss, Plainfield, N. J.

Ambulatory anesthetic management of the difficult child patient
Stanley R. Spiro, New York

SECTIONS ON COMPLETE PROSTHODONTICS AND ORAL SURGERY

Room C
9:30 a.m.

Arthur L. Roberts, presiding

Education for the complete denture patient
Chester Perry, Detroit

Role of the prosthodontist in immediate denture service
Frank C. Carothers, Garnett, Kan.

Factors to be considered in preparing the ridges for immediate dentures
Howard E. Gillette, Aurora, Ill.

SECTION ON ROENTGENOLOGY

Room A
9:30 a.m.

Sam W. Williams, presiding

Advances in oral roentgenology
Donald T. Waggener, Lincoln, Neb.

Cinefluorography with image intensification for observing temporomandibular function
Harrison M. Berry, Jr., Philadelphia

Diagnosis of bitewing roentgenograms by projection
Herbert H. Holliger, Huron, Ohio

SECTION ON PUBLIC HEALTH DENTISTRY

Room B
9:30 a.m.

Polly Ayers, presiding

Responsibility of the dental society in the field of public health
Maurice J. Friedman, Little Rock, Ark.

Role of the individual practitioner in the field of public health
(speaker to be selected)

Role of the public health dentist in the field of public health
Donald J. Galagan, Washington, D. C.

SECTION ON ANESTHESIOLOGY

Room S
2:00 p.m.

Harold W. Krogh, presiding

Symposium: Evaluation of hypnosis in dental practice
Moderator: Wilbur O. Ramsey, Baltimore

Viewpoint of the Clinical psychologist
Milton V. Kline, Ph.D., New York

Viewpoint of the psychiatrist
Harold Rosen, M.D., Baltimore

Viewpoint of the dentist
Arthur Kuhner, Cleveland

SECTION ON ORAL SURGERY

Room A
2:00 p.m.

J. Lorenz Jones, presiding

Diagnosis of common lesions of the oral cavity
Robert B. Shira, Washington, D. C.

Dentomedical emergencies in everyday dental practice
Ira J. Berlove, New York

Surgical preparation of the mouth for a prosthesis
S. Elmer Bear, Richmond, Va.

SECTION ON PERIODONTICS

Room C
2:00 p.m.

Samuel C. Miller, presiding

Symposium: Periodontics for the general practitioner

Diagnosis and prognosis
Allan N. Arvins, New York

Conservative treatment
Norman E. Alderman, Hempstead, N. Y.

Surgical treatment
Louis R. Burman, New York

Occlusal equilibration
Marvin Simring, Brooklyn

Periodontal principles of restorative dentistry
Julius N. Obin, New York

Management of the periodontal patient
George J. Witkin, Yonkers, N. Y.

SECTION ON PARTIAL PROSTHODONTICS

Room B
2:00 p.m.

Richard L. Simpson, presiding

Embrasure-saddle clasps in partial denture construction
Muller M. DeVan, Philadelphia

Obtaining efficient soft tissue support for the partial denture base
Aloys C. Metty, Ann Arbor, Mich.

Preparation of the mouth for partial dentures
Herbert J. Towle, Jr., Bethesda, Md.

SECTION ON ROENTGENOLOGY

Room E
2:00 p.m.

Sam W. Williams, presiding

Evaluation of photography in the dental office
Bert W. Gilbert, Springfield, Ill.

Photographic technics in dentistry
Stanley S. Goldberg, Chicago

Practical applications of photography in office use
Jack D. Carr, Indianapolis

Table clinics

The table clinic program will be presented at the Atlantic City Auditorium each morning, October 1-4.

COLLEGE OF DENTISTRY NEW YORK UNIVERSITY

Department of Periodontia and Oral Medicine

Physiological basis of periodontal therapy
Nathan Wachtel, New York

Etiology of periodontal disease
Irvin Yudkoff, New York

Histopathology of periodontal disease: clinical, oral and histological aspects
Theodore Lite, Brooklyn

Diagnosis and treatment planning
Ira F. Ross, East Orange, N.J.

Instrumentation
Henry I. Greene, Flushing, N.Y.

Home care in the treatment of periodontal disease
Alexander Soberman, New York

Occlusal equilibration
Abraham Goldstein, Brooklyn

Diet and nutrition
Seymour M. Koteen and J. Robert Theaman, New York

Systemic aspects of periodontal disease
Howard Ward, Great Neck, N. Y.

Surgical periodontal procedures
I. Michael Harris, Hackensack, N. J., and Melvin J. Pomeranz, New York

Provisional and permanent periodontal splinting
Jack L. Thaller, Brooklyn
Marvin N. Okun, New York

Factors to be considered in the management of the periodontal case
George J. Whinston, New York

Results of periodontal treatment
Saul T. Asnis, Oceanside, N.Y.

SCHOOL OF DENTAL AND ORAL SURGERY
COLUMBIA UNIVERSITY

Division of Operative Dentistry

Preparation and retraction of gingiva prior to taking impressions with hydrocolloid for multiple restorations
Edward A. Cain, Jr., New York

Macroscopic intraoral photography
Kenneth C. Deesen, New York

Sealing ability of self-curing acrylic fillings
Joseph E. Fiasconaro, New York

Rubber dam technic
Irvin L. Hunt, Jr., New York

Lingual approach in Class III gold foil filling: the cosmetic permanent filling
William H. Silverstein, New York

Preparation for full crown using self-limiting diamond instruments
Gilbert P. Smith, New York

Division of Prosthetic Dentistry

Impression technic for partial dentures
George W. Hindels, New York

Modification of acrylic faced crowns as abutments for retention of partial dentures
Robert E. Herlands, New York

Technic for construction of complete dentures
John J. Lucca, New York, and William J. Miller Woodside, N.Y.

HARVARD SCHOOL OF DENTAL MEDICINE

Histopathological analysis of human pulp tissue
Abraham Schwartz, Providence, R.I.

Self-curing acrylic filling materials
Ernest E. Adams, Natick, Mass.

Establishing vertical dimension
Douglas A. Atwood, Boston

Orthodontics for the family dentist
Julian M. Rothblatt, Brookline, Mass.

Role of gingivoplasty in periodontal therapy
Paul Goldhaber, Boston

ORTHODONTIC DEPARTMENT BETH ISRAEL HOSPITAL

Orthodontic aids for the general practitioner

Band technic and space maintenance using chrome alloys
Edward Schwarz, West Orange, N.J.

Use of cold cured acrylic resins for removable appliances
Nat Moss, Maplewood, N.J.

Controlled precision spot welding and electrobrazing
Milton Neger, Newark, N.J.

Indications for serial extractions and subsequent treatment
Bertram Kaswiner, Newark, N.J.

LANSING CLINIC CLUB

A mounting procedure for the functional analysis of occlusion
Richard W. Huffman, George L. Bettman, John B. Meade, George F. Saghy and L. James Wies, Lansing, Mich.

WELLS ORAL SURGERY STUDY GROUP

Aids in oral surgery
Herbert I. Calman, New York; Mervin Eisenberg, Newark, N.J.; Joseph E. Grodjesk, Jersey City, and Leonard Szerlip, Morristown, N.J.

GROUP CLINIC

Kyle complete denture impression technic
William L. Holve, Van Nuys, Calif.; Russell R. Langenbeck, Santa Ana, Calif., and William E. Schwartz, Beverly Hills, Calif.

ODONTIC SEMINAR GROUP CLINIC

Technical steps in restoring a natural dentition to cuspal coordination
Morris J. Thompson, Beverly Hills, Calif.

Preparation of hydrocolloid material and its use in obtaining an accurate impression
H. Harrison McAllister, Wilmington, Del.

Use of Dowell attachment in partial denture
Leo L. Guichard, San Diego

A method of gingival retraction preparatory to a hydrocolloid impression
Edwin W. Halvorson, Los Angeles

DETROIT DENTAL CLINIC CLUB

Informing the patient about the treatment required for the periodontal case
Jack D. Kutnick, Detroit

Fixed splint and bridge assembly
Max B. Winslow, Detroit

AMERICAN DENTAL ASSISTANTS ASSOCIATION

Vacuum investing
Joyce Thomas, Hartselle, Ala.

Research highlights on tooth decay
Jeannette Bennett, Miami

An integrated plan for office procedure
Mattie Clary, Brunswick, Ga.

The assistant's role in oral surgery
Joyce Quimby, Baltimore

Care and maintenance of high speed handpieces
Bette Kelcher, St. Paul

Color photography in
presentation of denture case
Yolande Michalski, Buffalo

Training your assistant
Dorothy Zarley, Dayton, Ohio

Good public relations—adult and juvenile
Lucy Hartman, Portland, Ore.

Importance of foot care
Irene Tobin, Huntington, W. Va.

AMERICAN DENTAL HYGIENISTS' ASSOCIATION

Dental hygiene program in the
Sister Kenny Polio Hospital
Loretta Jung, Los Angeles

Getting results with a recall system
Shirley Lechus, Shelton, Conn.

Aids in home care of teeth with periodontal involvement
Colleen Owens, Chicago, and Ruth Robertson, Evanston, Ill.

Importance of good posture
Zerah Mann, Topeka, Kan.

Qualities of a good roentgenogram
Sally Meyer, Detroit, and Charlotte Wetherald, Birmingham, Mich.

Puppets in dental health education
Janet Aker, St. Paul

The health express
Virginia S. McKown, Pittsburgh

Visual approach to patient education
M. Barbara Schulze, Boston

Supernumerary teeth in school children
Leona Dunlap and Lorna Bruning, Houston, Texas

ANESTHESIOLOGY

Injection of a local anesthetic
Galen W. Quinn, Memphis, Tenn.

ENDODONTICS

Endodontic treatment of the upper anterior teeth with periapical curettage
F. Jose Fernandez, Tampa, Fla.

Consideration of aids in treatment of endodontic cases
Seymour Oliet and David Snyder, Philadelphia

Use of endodontic procedures as aids in crown and bridge construction
Irving I. Abramson, Baltimore

Completion of root canal filling and an apicoectomy in one sitting
Roderick L. Nystul, Park Ridge, Ill.

Preparation, sterilization and filling of root canals
Samuel Luks, New York

OPERATIVE DENTISTRY

Limitations, aids and technic for ultrasonics
Hume S. Powell, Richmond, Va.

Filling Class V cavities with gold foil and mat gold
Robert N. Ogilvie, Fredericton, New Brunswick, Canada

High speed procedures in operative dentistry utilizing speeds up to 200,000 rpm
Harold C. Kilpatrick, New Canaan, Conn.

Conservative high speed cavity preparation for the gold inlay
John A. Bartlett, Detroit

Hydrocolloid impressions in restorative dentistry
Philip Craig, Montclair, N.J.

Use of rubber impression material with a newly designed syringe for multiple inlay impressions
Clifford M. Sturdevant and Roger E. Barton, Chapel Hill, N.C.

Control of apprehension by medication
Harold Sherman, New York

Use of porcelain transfer in the construction of single and multiple jacket crowns and bridges and complete mouth rehabilitation
Jacob B. Shaykin, Chicago

Demonstration of various types of cavity preparation
Edwin A. Saeger, Pittsburgh

Construction of various types of acrylic jacket crowns
Edward H. Ragan, Rantoul, Ill.

Application of a pin matrix retainer
Helen J. Pankiw, Rochester, N.Y.

Placing a gold foil filling in a Class III cavity
Edmund F. Madden, Honolulu, Hawaii

Reproduction of tooth anatomy and positional relationship in full cast or veneer crowns
Alexander Leß, Brooklyn

New method for the treatment of exposed vital pulps
Norman D. Hyland, Mobile, Ala.

Esthetic anterior abutment coverage
William A. Jennings and John R. Callahan, Phoenixville, Pa.

The acrylic resin veneer crown without peripheral undercuts
Abraham H. Tamarin, Chicago

Synthetic rubber impressions for inlays, crowns and fixed bridges
L. Rush Bailey, Birmingham, Ala.

ORAL SURGERY

Fracture immobilization
Kenneth H. Baldwin, Lowry Field, Colo.

A visual demonstration of the disturbance of the periaxial stream with subsequent loss of blood elements during the inflammatory process
David Krasner, Bedford, Mass.

Case report of a fracture of mandible using a tantalum splint
Irving J. Fink, Union City, N.J.

Diagnosis and treatment of diseases of the salivary glands
A. Norman Cranin, Brooklyn

Extractions need not be difficult
Allyn S. Abramson, Los Angeles

Technical procedures in mandibular subperiosteal implant
Victor L. Beck, Hastings, Neb., and Edmund R. Hinrichs, Lincoln, Neb.

Diagnosis and treatment of swellings of hard and soft tissues
Richard L. Verbic, Elgin, Ill.

An emergency airway procedure
Herbert J. Towle, Jr., Bethesda, Md.

Surgical correction of mandibular prognathism
Roderick L. Lister, Washington, D.C.

The dentist's role in the treatment of shock
D. Stoddard Judd, Salt Lake City

Operative approach designed to combine the emergency and definitive treatment of facial injuries
William B. Irby, Denver

Handling various types of odontomas
Ernesto Davila-Diaz, San Juan, Puerto Rico

Diagnosis of oral infections
Arthur O. Christiansen, Milwaukee

Consideration of the laryngeal spasm
Joseph Y. Bloom, Elizabeth, N.J.

Oral surgical splints
Charles C. Alling, El Paso, Texas

Management of jaw fractures
Newton E. Allen, Langley Air Force Base, Va.

ORTHODONTICS

Adaptation of space maintainers to meet the requirements of the case
James M. Welden, Dothan, Ala.

Use of a space maintainer as an orthodontic aid
Rubin Josell, Brooklyn

Orthodontics for the general practitioner
Henry Adelson, Brooklyn

PEDODONTICS

Consideration of pulpotomy for conserving teeth
Frank F. Feldman and Jerome D. Buxbaum, Washington, D.C.

Dentistry for children in a general practice
Morris Peckerman, Chester, Pa.

Morphology of deciduous teeth and its effect on cavity preparations
Elias Lisman, Irvington, N.J.

PERIODONTICS

Treatment for Vincent's infection
Thomas V. Sheehan, Seattle

Occlusal splints as an adjunct in the management of closed overbites and equilibration
Robert H. Jakob, Langley Air Force Base, Va.

Extracoronal splints and bite planes in periodontal therapy
Irving C. Stone, Chicago

Indications and technic for the gingivectomy procedure including the philosophy of gingivoplasty
Bernard M. Kaplowitz, Atlantic City

Use of activated appliances in periodontal treatment
John A. Kollar, Jr., Chicago

Methods of provisional splinting in periodontal therapy
Herbert Bricken, Silver Spring, Md.

Technic for the surgical eradication of periodontal pockets
W. Bernard Bell, El Paso, Texas

Presentation of the need for periodontal treatment to the patient
Don M. Ball, Cincinnati

Application of nutrition in modern dentistry
Gilbert L. Mellion and Ruth B. Mellion, B.A., Rocky Hill, Conn.

Temporary splinting as an aid in periodontal treatment
Edward Bressman, Irvington, N.J.

PROSTHODONTICS

Complete mandibular metal implants
D. Lynn Openshaw, Los Angeles

Demonstration of uses of an articulator and method for facilitating the mounting of models
Harold L. Hughey, Ellington Air Force Base, Texas

Tinting finished dentures using autopolymerizing resin and the patient's mucosa as a guide
Roy L. Bodine, Jr., El Paso, Texas

Combination of alginate and plaster for impressions for fixed restorations
I. Norton Brotman, Baltimore

Selective spot grinding of complete dentures
Louis Goldberg, Fort Eustis, Va.

Complete denture impressions
Ira E. Klein, New York

Individualization in complete dentures
Leland E. Weyer, Washington, D.C.

Curing acrylic resin with dry heat and hollow grinding of denture teeth for veneer crowns
Holburn C. Arnett, Tampa, Fla.

Fundamentals of crown and bridge practice and procedure
Fred N. Bazola, Chicago

Design of partial denture bases and the reshaping of abutment teeth for the reception of clasps
Louis Schorr, New York

Mouth preparation and design for partial dentures
John R. Sherman, Jr., Oxon Run Hills, Md.

Cast gold acrylic veneer crowns as abutments for partial and complete fixed prosthesis
Hyman S. Tobey, Plainfield, N.J.

Transfer copings in crown and bridge construction
David H. Willer, Washington, D.C.

Periodontal damage resulting from anatomic errors in fixed prosthesis
Irving L. Yalisove, Wilmington, Del.

Occlusal equilibration in complete denture construction
Ellis Promisloff, Topeka, Kan.

Methods and material used in obtaining impressions for complete dentures
Albert P. Leisz, Brooklyn

Projected clinics

ATLANTIC CITY AUDITORIUM

October 1-3 afternoons

October 4 morning

Each projected clinic consists of a demonstration of a practical technic or of a solution of a particular problem commonly occurring in dental practice. Clinicians will use slides and comment on them as they are being projected. The clinics will be presented each afternoon, October 1 through 3, and the morning of October 4.

Complications of minor oral surgery
Charles C. Alling, El Paso, Texas

Problems and complications from 16 mandibular implant dentures
Roy L. Bodine, Jr., El Paso, Texas

Rubberoid impression material for inlays and crowns
Mortimer C. Davis, Jersey City

Correct use of silver points for filling root canals
Edward N. Green, Brooklyn

Accidents and failures in exodontia
Sampson S. Hecht, New York

Essentiality of proper coverage of individual restorations in oral rehabilitation
Victor N. Jaffe, Washington, D. C.

Development of an occlusal pattern for complete dentures
Philip M. Jones, Kansas City, Mo.

Emergency treatment and restoration of severely fractured maxillary permanent incisors
Morris Kelner, Philadelphia

Advantages of a Class V gold foil restoration
Merle B. McGee, Pittsburgh

Nutrition and modern dentistry
Gilbert L. Mellion, Rocky Hill, Conn.

Diagnosis of the abutment tooth
Melvin L. Morris, New York

Pitfalls in endodontic therapy
Joseph J. Obst, Brooklyn

Immediate denture procedure
Chastain G. Porter, Kansas City, Mo.

Technic for handling oral surgical cases
Benjamin Tucker, Bay Shore, N. Y.

Success patterns in dental practice
John L. Woehler, Sierra Madre, Calif.

Presentation of periodontic treatment to the patient
William H. Copperthwaite, Red Bank, N. J.

Scientific exhibits

ATLANTIC CITY AUDITORIUM

October 1-4

Dentistry for the handicapped patient

Academy for Oral Rehabilitation of Handicapped Persons

Saint Apollonia, the patron saint of dentistry

Harold L. Faggart, Philadelphia, American Academy of the History of Dentistry

First teeth are important

American Dental Association, Bureau of Dental Health Education

Nutrition and dental health

American Dietetic Association

American Hospital Association

American Hospital Association

Maxillofacial prosthesis

Louis J. Boucher, Milwaukee

Stress as an etiologic factor in human and experimental cleft palate

Michael B. Collito, Newark, N. J.; Lyon P. Strean, West Point, Pa., and Lyndon A. Peer, M. D., Newark, N. J.

Time-lapse motion pictures of the gingivae

Colgate-Palmolive Co., Research and Development Department, Division of Dental Medicine (R&D)

Cleft palate prosthesis

Cloyd S. Harkins, Osceola Mills, Pa.; William R. Harkins, Osceola Mills, Pa., and John F. Harkins, Wesleyville, Pa

The relationship of dentistry to speech

Howard E. Kessler, Cleveland

The Bennett movement concept and temporomandibular joint physiology

Joseph S. Landa, New York

Histopathology of x-ray lesions

Joseph L. Bernier, Oral Pathology, Armed Forces Institute of Pathology

Fifty years of FDA—health protection for you and your patient

Department of Health, Education and Welfare, Food and Drug Administration, Irvin Kerlan, M. D.

Navy Dental Corps casualty treatment training program

Navy Dental Corps

United States Air Force Medical Service—panoramic dental x-ray

Henry I. Copeland, Jr., National Bureau of Standards

Histologic studies of transplantation of teeth

R. Gordon Agnew, San Francisco, and Chester C. Fong, San Francisco

A reconstruction project in dental embryology

Theodore Weisse, University of Pittsburgh, School of Dentistry Histology Department

The team approach to the cleft palate and cleft lip problem

University of Kansas City School of Dentistry, Arthur F. Lindquist, Kansas City, Mo., and University of Kansas School of Medicine, David W. Robinson, M.D., Kansas City, Kan.

Dental activities in the Public Health Service

Department of Health, Education and Welfare, Public Health Service

Rehabilitation of patients with gross dentofacial malformations

Jacob C. Lifton, New York

Methods, appliances and materials for the closed and open reduction and fixation of fractured facial bones

Walter H. Becker, Fort Hood, Texas

Some unusual problems of oral surgery, periodontics, and prosthodontics

R. L. Bodine, C. C. Alling and W. B. Bell, William Beaumont Army Hospital, El Paso, Texas

Civil defense emergency hospital

Federal Civil Defense Administration

Roentgenographic determination of cavities from interproximal roentgenograms

J. C. Almy Harding, San Diego

Bacterial antagonisms in the control of dental caries

College of Physicians and Surgeons School of Dentistry, Charles A. Scrivener, San Francisco

Dental research at the National Bureau of Standards

National Bureau of Standards in cooperation with Army, Air Force, Navy, Veterans Administration and American Dental Association

A difficult treatment plan

Frank J. Gruchalla, St. Louis

Bring the best dental health to your town

Indiana State Board of Health, Division of Dental Health, Charles L. Howell, director

Implantation of magnets in the jaw to aid denture retention: a four-year follow-up report

The New York Hospital, Cornell University Medical Center

Oral-facial habilitation

Stanley J. Behrman, New York

Motion pictures

ATLANTIC CITY AUDITORIUM

October 1-4

Bilateral mandibular ostectomy

Charles C. Alling and Winlaw A. Priebe, William Beaumont Army Hospital, El Paso, Texas

Community health in action

Sam Orleans and Associates, Inc., Knoxville, Tenn., and National Health Council, New York

Cysts of the jaws

Floyd E. Straith, Detroit

Dissection of parotid tumors

Raymond W. MacNealy, M.D., Chicago

Equilibration of occlusion and splinting

New York University, Department of Periodontia and Oral Medicine, College of Dentistry

Full mouth rehabilitation for the general practitioner

Martin Entine, Philadelphia

The H-bomb over Illinois

Illinois Civil Defense Administration, Chicago

Hypnosis in dentistry

James D. Jacoby, San Mateo, Calif.

Immediate denture surgery

State University of Iowa, Department of Oral Surgery, College of Dentistry, Iowa City

Immediate full upper dentures without lip protrusion

Henry D. Rohrer, Rochester, N. Y.

An introduction to someone you know

Luxene, Inc., New York

Jack goes western

Texas State Department of Health, Austin

Mandibular dysfunction

L. Laszlo Schwartz, School of Dental and Oral Surgery, Columbia University, New York

New concepts in the preparation of teeth for full coverage
Alexander Leff, Brooklyn

Operation for correction of prognathism by means of bilateral ostectomy of mandible
Benjamin J. Jacobs and Stephen Rofel, Newark, N. J.

A porcelain jacket crown technique
National Bureau of Standards, American Dental Association, and the University of Montevideo

The range of movement of the mandible
Ulf Posselt, Malmo, Sweden

Root recovery
State University of Iowa, College of Dentistry, Iowa City

Surgical procedures for mandibular lingual anomalies
State University of Iowa, College of Dentistry, Iowa City

Teeth: their structure and care
Coronet Instructional Films, Chicago

Time-lapse motion picture in clinical dental research
Josee-Emile de Wever, Colgate-Palmolive Co., Jersey City

Television spot announcements
American Dental Association, Chicago

Tooths or consequences
Forrest R. Slavens, Steamboat Springs, Colo.

The use of chelation and polarized light for the study of normal and carious teeth
Naval Medical Research Institute, Bethesda, Md.

Venepuncture in general practice
L. Drummond-Jackson and H. Mandiwall, London, England

Technical exhibitors

A & A Manufacturing Co., Warsaw, Ind.
Abbott Laboratories, Inc., 14th and Sheridan Rd., North Chicago, Ill.
Acralite Company, Inc., 230 W. 41st St., New York
Aderer, Inc., Julius, 219 E. 44th St., New York
Allison Company, W. D., 1133 Burdsal Parkway, Indianapolis
American Cabinet Company, The, Two Rivers, Wis.
American Consolidated Dental Company, 835 N. 19th St., Philadelphia
American Ferment Company, Inc., 1450 Broadway, New York
American Medical Association, 535 N. Dearborn St., Chicago
American Sterilizer Company, Box 620, Erie, Pa.
Amurol Products Company, 116 S. Michigan Ave., Chicago
Ash Sons & Company, U.S.A., Inc., Claudius, 309 Main St., Niagara Falls, N. Y.
Astra Pharmaceutical Products, Inc., 7½ Neponset St., Worcester, Mass.
Austenal Laboratories, Inc., 5101 S. Keeler Ave., Chicago

Baker & Company, Inc., 850 Passaic Ave., East Newark, N. J.
Bentell Porcelain Studios, 315 S. 16th St., Philadelphia
Blakiston Division, The, McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York
Boos Dental Laboratories, Inc., Henry P., 808 Nicollet Ave., Minneapolis
Bowen & Company, Inc., P.O. Box 5818, Bethesda, Md.
Bristol-Myers Products Division, 630 Fifth Ave., New York
Buffalo Dental Manufacturing Company, 775 Main St., Buffalo
Burton Manufacturing Company, 2520 Colorado Ave. at 26th St., Santa Monica, Calif.
Butler Company, John O., 540 Lake Shore Dr., Chicago

Carrick Travel Bureau, Oberlin Bank Bldg., Oberlin, Ohio
Castle Company, Wilmot, 1777 E. Henrietta Rd., Rochester, N. Y.
Caulk Company, The L. D., Milford, Del.
Cavitron Equipment Corporation, 42-26 28th St., Long Island City, N. Y.
Certified Products, Inc., 41 Van Buren St., Newark, N. J.
Chayes Dental Instrument Corporation, 460 W. 34th St., New York
Church & Dwight Company, Inc., 70 Pine St., New York
Cleveland Dental Manufacturing Company, The, 3307 Scranton Rd., S.W., Cleveland
Coe Laboratories, Inc., 6033 Wentworth Ave., Chicago
Coles Electronic Corporation, 1207 Race St., Philadelphia
Columbia Dentoform Corporation, 131 E. 23rd St., New York
Columbus Dental Manufacturing Company, The, 634 Wager St., Columbus
Cook-Waite Laboratories, Inc., 1450 Broadway, New York
Coreco Research Corporation, 159 W. 25th St., New York
Corega Chemical Company, 76 Mill Rd., Jersey City
Cosmos Dental Products, Inc., 653 11th Ave., New York
Crescent Dental Manufacturing Company, 1839 S. Pulaski Rd., Chicago

Dersco, Incorporated, P. O. Box 420, Denver
Dental Development and Manufacturing Corporation, 653 Washington Ave., Brooklyn
Dental Perfection Company, Inc., 517 Terrill Rd., Scotch Plains, N. J.
Denticator Company, Inc., The, 1068 Mission St., San Francisco
Dentists' Supply Company of New York, The, 500 W. College Ave., York, Pa.
Dudley Research Corporation, 55 Mt. Vernon Ave., Mt. Vernon, N. Y.
Du Pont de Nemours and Company, Inc., E. I., 10 & Market Sts., Wilmington, Del.
Durallium Products Corporation, 809 W. Washington Blvd., Chicago

Eastman Kodak Company, 343 State St., Rochester, N. Y.
Emesco Dental Company, 150 Fifth Ave., New York
Encyclopaedia Britannica, Inc., Rm. 510, 42 S. 15th St., Philadelphia

Fleet Company, Inc., C. B., 921 Commerce St., Lynchburg, Va.
Friedman Specialty Company, 4707 Sheridan Rd., Chicago
Funk Company, Carl H., 722 E. Center St., Warsaw, Ind.

General Electric Company, X-Ray Department, 4855 Electric Ave., Milwaukee
Gesner Incorporated, M. A., 216 E. Superior St., Chicago
Getz Corporation, William, The, 7512 S. Greenwood Ave., Chicago
Graham Chemical Corporation, 129-21 Merrick Rd., Springfield Gardens, N. Y.
Great-West Life Assurance Co., The, 185 Lombard Ave., Winnipeg, Canada
Guildcrafters, 2755 E. Coast Highway, Corona del Mar, Calif.

Hall Dental Products Company, 1 Jefferson Ave., Rockville Centre, N. Y.
Hanau Engineering Company, Inc., 1233 Main St., Buffalo
Handler & Son, Edward, 86-90 North Ave., Garwood, N. J.
Healey Company, Jay E., 21 Baldwin St., Newark, N. J.
Herz Manufacturing Corporation, 840 E. 134th St., New York
Hirsch Dental Company, Henry H., 3407 Milverton Rd., Cleveland
Hudson Products, 111 Academy St., Jersey City
Hu-Friedy, Incorporated, 3118 N. Rockwell St., Chicago

Interstate Dental Company, Inc., 220 W. 42nd St., New York
Ivory, Incorporated, J. W., 308-12 N. 16th St., Philadelphia

Jectron Company, 1009 Jackson St., Toledo, Ohio
Jelenko & Company, Inc., J. F., 136 W. 52nd St., New York
Jelinek Dental Alloys, H., 95 Nassau St., New York
Johnson & Johnson, New Brunswick, N. J.
Justi & Son, Inc., H. D., 32nd and Spring Garden Sts., Philadelphia

Kerr Manufacturing Company, 6081 Twelfth St., Detroit
Kurmax Dental Products, 1420 S. 53rd St., Milwaukee, Wis.

Lactona, Incorporated, 236 E. 9th St., St. Paul
Lea & Febiger, 600 S. Washington Sq., Philadelphia
Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.
Lippincott Company, J. B., E. Washington Sq., Philadelphia
Luxene, Incorporated, 118 E. 25th St., New York

Manhattan Uniform Company, 509 S. Wabash Ave., Chicago
Masel Company, Isaac, 1108 Spruce St., Philadelphia
Massachusetts Indemnity Insurance Company, 654 Beacon St., Boston
McKesson Appliance Company, 2228 Ashland Ave., Toledo, Ohio
Medical Dental Scientific Photo Equipment, Box 55, Levittown, N. Y.
Medical Plastics Laboratory, P. O. Box 38, Gatesville, Texas
Medical Protective Company, The, Fort Wayne, Ind.
Medi-Dent Professional Apparel Company, 496 Tenth Ave., New York
Midwest Dental Manufacturing Company, 4439 W. Rice St., Chicago
Minimax Company, The, 5905 N. Clark St., Chicago
Missionary Dentist, Incorporated, The, 5543 25th Ave., N.E., Seattle, Wash.
Mizzy, Incorporated, 1128 Lexington Ave., New York
Mosby Company, The C. V., 3207 Washington Blvd., St. Louis
Moskey & Geiss Dental Laboratories, Huron-9th Bldg., P. O. Box 5938, Cleveland
Moyer Company, Inc., The J. Bird, 117-121 N. Fifth St., Philadelphia
Myerson Tooth Corporation, 90 Hamilton St., Cambridge, Mass.

National Dairy Council, 111 N. Canal St., Chicago
Ney Company, The J. M., 71 Elm St., Hartford, Conn.
Nobilium Products, Inc., 914 Walnut St., Philadelphia
North American Philips Company, Inc., 750 S. Fulton Ave., Mt. Vernon, N. Y.
Novocol Chemical Manufacturing Company, Inc., 2911-23 Atlantic Ave., Brooklyn
Nu-Dent Porcelain Studio, Inc., 220 W. 42nd St., New York

Olden Camera and Lens Company, 1265 Broadway, New York
Oral B Company, 448 S. Market St., San Jose, Calif.
O'Rourke Diamond Company, 11423 Van Owen St., North Hollywood, Calif.
Overseas Scientific Corporation, 137 E. 57th St., New York

Parkell Co., 116 E. 18th St., New York
Peerless Appliance Company, Inc., 126 Eleventh Ave., New York
Pelton & Crane Company, The, P. O. Box 3664, Charlotte, N. C.

Pfingst & Company, Inc., 62 Cooper Sq., New York
Pfizer Laboratories, 630 Flushing Ave., Brooklyn
Poloris Company, Inc., 109 Academy St., Jersey City
Precious Metals Research Works, Inc., 230 W. 41st St., New York
Premier Dental Products Company, 1001 Chestnut St., Philadelphia
Professional Budget Plan, 303 E. Wilson St., Madison, Wis.
Professional Dental and Manufacturing Co., 4542 N. Western Ave., Chicago
Pycopé, Incorporated, 392 Wayne St., Jersey City

Ransom & Randolph Company, P. O. Box 905, Toledo, Ohio
Reliance Dental Manufacturing Company, 22 E. Van Buren St., Chicago
Rhodes Optical Company, Gate, Wash.
Richmond Dental Cotton Company, P. O. Box 2176, Charlotte, N. C.
Rinn X-Ray Products, Inc., 2929 N. Crawford Ave., Chicago
Ritter Company, Inc., 400 West Ave., Rochester, N. Y.
Rocky Mountain Metal Products Company, 1450 Galapago, Denver
Rode Associates, Charles W., 3343 N. Eastern Ave., Los Angeles
Rower Dental Manufacturing Corporation, 154 Boylston St., Boston
Rubinstein Dental Equipment Corporation, 141 Fifth Ave., New York

Saunders Company, W. B., W. Washington Sq., Philadelphia
Schumacher Dental & Surgical Instrument Co., Karl, 9316 Cloverly Rd., Philadelphia
Schwed, Charles B., 509 Fifth Ave., New York
Sharp & Dohme, Division of Merck & Company, Inc., 640 N. Broad St., Philadelphia
Shelley Dental Manufacturing Company, 305 N. Glendale Blvd., Los Angeles
Sorg Paper Company, The, Middletown, Ohio
Squibb & Sons, E. R., 745 Fifth Ave., New York
Stalite, Inc., 4170 Park Ave., New York
Star Dental Manufacturing Company, Inc., S. E. corner, 58th and Market Sts., Philadelphia
Stern-Goldsmith Corporation, 320 Washington St., Mount Vernon, N. Y.
Stratford Cookson Company, 261 S. Third St., Philadelphia
Superior Dental Laboratories, 311 S. Broad St., Philadelphia
Surgident, Ltd., 2124 S. Sepulveda Blvd., Los Angeles

Taub, Incorporated, George, 2824 Hudson Blvd., Jersey City
Ticonium, 413 N. Pearl St., Albany, N. Y.
Tiffany Diamond Instruments, Box 511, Tujunga, Calif.
Torit Manufacturing Company, 292 Walnut St., St. Paul

Union Broach Company, Inc., 37 W. 20th St., New York
Union Dental Company, Inc., 5119 Chester Ave., Philadelphia
Universal Dental Company, 48th and Brown Sts., Philadelphia

Valtronic Corporation, The, 123 W. 64th St., New York
Vernon-Benshoff Company, P. O. Box 1587, Pittsburgh

Weber Dental Manufacturing Company, The, 2206 13th St., N. E., Canton, Ohio
Wernet Dental Manufacturing Company, Inc., 105 Academy St., Jersey City
White Dental Manufacturing Company, The S. S., 211 S. Twelfth St., Philadelphia
Williams Gold Refining Company, Inc., 2978 Main St., Buffalo
Wolf X-Ray Products, Inc., 93 Underhill Ave., Brooklyn

X-Ray Manufacturing Corporation of America, 222 Bowery, New York

Year Book Publishers, Inc., The, 200 E. Illinois St., Chicago

Z. F. Manufacturing Company, Inc., 9207 Flatlands Ave., Brooklyn

Meetings

A.D.A. AGENCIES

Board of Trustees • Haddon Hall, Mandarin Room, September 26-October 4.

Council on Constitution and Bylaws • Haddon Hall, Room 1344, September 29.

Council on Dental Trade and Laboratory Relations • Liaison Service, Auditorium, Room 1, October 1, 3:00 p.m. to 5:00 p.m.

Council on Federal Dental Services, Subcommittee on Civil Defense • Liaison Service, Auditorium, Room 3, October 1, 3:00 p.m. to 5:00 p.m.

Council on International Relations • Luncheon for International Guests, Haddon Hall, Benjamin West Room, October 2, 12:15 p.m.

Council on Legislation • Congressional Liaison Service, Auditorium, Room 2, October 1, 3:00 p.m. to 5:00 p.m.

Council on Relief • Liaison Service, Auditorium, Room 10, October 1, 3:00 p.m. to 5:00 p.m.

Council on Scientific Session • Breakfast meeting with Section Officers, Claridge Hotel, September 30, 8:00 a.m.

Council on Scientific Session • Reception for Clinicians and Essayists, Claridge Hotel, Trimble Hall, October 1, 5:30 p.m. to 7:30 p.m.

General Meeting • Warner Theatre, October 2, 7:45 p.m.

House of Delegates • Auditorium, October 1, 3 and 4.

Past Presidents' Luncheon • Haddon Hall, Bakewell Room, October 3, 12:30 p.m.

State Society Officers Conference • Haddon Hall, Viking Theatre, September 30, 9:00 a.m.

State Society Officers Luncheon • Haddon Hall, Benjamin West Room, September 30, 1:00 p.m.

TRUSTEE DISTRICT DELEGATIONS

First District • Haddon Hall, Sun Porch, October 1, 7:45 a.m., breakfast meeting. Arthur W. Easton, 171 Main St., Norway, Me., trustee.

Second District • Haddon Hall, Solarium, September 30-October 4, headquarters. Percy T. Phillips, 18 E. 48th St., New York, trustee.

Third District • Haddon Hall, Bakewell Room, October 2 and 3, 8:00 a.m., breakfast meetings. Charles H. Patton, 235 S. 15th St., Philadelphia, trustee.

Fourth District • Traymore Hotel, Belvedere Room, October 1, 8:00 a.m., breakfast meeting. Edward R. White, 921 Bergen Ave., Jersey City, trustee.

Fifth District • Haddon Hall, Garden Room, October 1, 8:00 a.m., breakfast meeting. Howard B. Higgins, Montgomery Bldg., Spartanburg, S. C., trustee.

Sixth District • Haddon Hall, Peacock Inn, October 1, 8:00 a.m., breakfast meeting. Arthur F. Schopper, Professional Bldg., Kansas City, Mo., trustee.

Seventh District • Haddon Hall, Navajo Room, October 1, 3:00 p.m., meeting; Haddon Hall, Sun Porch, October 3, 8:00 a.m., breakfast meeting. Earl G. Jones, 185 E. State St., Columbus, Ohio, trustee.

Eighth District • Haddon Hall, Navajo Room, October 1 and 3, 8:00 a.m., breakfast meeting. Laverne H. Jacob, Jefferson Bldg., Peoria, Ill., trustee.

Ninth District • Haddon Hall, Solarium, October 1, 8:00 a.m., breakfast meeting. Paul H. Jeserich, Dental School, University of Michigan, Ann Arbor, Mich., trustee.

Tenth District • Haddon Hall, suite of Daniel R. Clark, Minneapolis, October 2 and 3, 8:00 a.m. meetings. Lewis W. Thom, Medical Arts Bldg., Minneapolis, trustee.

Eleventh District • Haddon Hall, Rutland Room, October 1, 8:00 a.m., breakfast meeting. Clarence S. Renouard, Phoenix Bldg., Butte, Mont., trustee.

Twelfth District • Haddon Hall, Benjamin West Room, October 1 and 3, 8:00 a.m., breakfast meetings. William R. Alstadt, Boyle Bldg., Little Rock, Ark., trustee.

Thirteenth District • Haddon Hall, Garden Room, October 1, 12:15 p.m., luncheon meeting; Haddon Hall, Garden Room, October 3, 8:00 a.m., breakfast meeting. John R. Abel, 10231 Santa Monica Blvd., Los Angeles, trustee.

GROUPS IN THE DENTAL FIELD

American Academy of Dental Practice Administration • Claridge Hotel, September 30. Wallace N. Kirby, 935 Curtis St., Downers Grove, Ill.

American Academy of the History of Dentistry • Chalfonte Hotel, Blue Room, September 28. Harold L. Faggart, 2120 Pine St., Philadelphia, secretary.

American Academy of Oral Roentgenology • Marlborough-Blenheim Hotel, September 28-29. Harrison M. Berry, Jr., 4001 Spruce St., Philadelphia, secretary.

American Academy of Periodontology • Claridge Hotel, September 27-29. Clarke E. Chamberlain, 1101 North St., Peoria, Ill., secretary.

American Association of Dental Editors • Haddon Hall, Garden Room, September 29. Austin H. Kutscher, 1107 Fifth Ave., New York, secretary.

American Association of Dental Examiners • Haddon Hall, Rutland Room, September 28-29. Carl A. Bumstead, Stuart Bldg., Lincoln, Neb., secretary.

American Association of Dental Schools • Claridge Hotel, September 30. Marion W. McCrea, 42 S. Greene St., Baltimore, secretary.

American Association of Public Health Dentists • Dennis Hotel, September 30. Roy D. Smiley, 1330 W. Michigan St., Indianapolis, secretary.

American College of Dentists • Haddon Hall, September 30. Otto W. Brandhorst, 4221 Lindell Blvd., St. Louis, secretary.

American Dental Assistants Association • Shelburne Hotel, September 30-October 4. Miss Mary L. Martin, First National Bank Bldg., La Porte, Ind., executive secretary.

American Dental Hygienists' Association • Dennis Hotel, October 1-4. Miss Margaret E. Swanson, 1735 Eye St., N.W., Washington, D. C., secretary.

American Dental Society of Anesthesiology • Ambassador Hotel, September 29-30. Arthur J. Follenius, 111 Lortel Ave., Staten Island, N. Y., secretary.

American Denture Society • Traymore Hotel, September 28-29. Victor L. Steffel, 19 W. Fifth Ave., Columbus, Ohio, secretary.

American Society of Dentistry for Children • Ambassador Hotel, September 28-30. William E. Brown, School of Dentistry, University of Michigan, Ann Arbor, Mich., secretary.

Association of American Women Dentists • Claridge Hotel, September 30-October 1. Natalie G. McDonald, 151 Engle St., Englewood, N. J., secretary.

Georgetown Dental Alumni Association • Haddon Hall, October 2, luncheon. John G. Campi, Medical Arts Bldg., Asbury Park, N. J., secretary.

International Academy of Oral Dynamics • Claridge Hotel, September 30. Rudolph K. Sindmack, 573 Bloomfield Ave., Verona, N. J., secretary.

International College of Dentists • Chalfonte Hotel, September 30-October 1. H. O. Westerdahl, 4829 Minnetonka Blvd., Minneapolis, secretary.

Loyola University (Chicago) Dental Alumni Association • Traymore Hotel, October 2, breakfast, 7:30 a.m. Frank Amaturo, 1757 W. Harrison St., Chicago, secretary.

Marquette University Dental Alumni Association • Dennis Hotel, October 2, luncheon. Mr. Ray H. Pfau, 620 N. 14th St., Milwaukee.

National Alumni Association of the Baltimore College of Dental Surgery • Traymore Hotel, October 2, breakfast. Joseph M. Tighe, 6601 York Rd., Baltimore, secretary.

National Association of Dental Laboratories • Claridge Hotel, Hospitality Room, October 1-4. Mr. Paul A. Slone, Mills Bldg., Washington 6, D. C., secretary.

National Association of Seventh-Day Adventist Dentists • Dennis Hotel, September 27-30. John Bata, Jr., 5403 Queens Chapel Rd., Hyattsville, Md., secretary.

Northwestern University Dental School Alumni Association • Claridge Hotel, October 3, luncheon. Edgar W. Swanson, 311 E. Chicago Ave., Chicago, secretary.

University of Illinois Telephone Extension Program • Claridge Hotel, October 2, breakfast. Saul Levy, 808 S. Wood St., Chicago.

FRATERNAL GROUPS

Alpha Omega • Shelburne Hotel, October 1, banquet. David L. Dyen, 1931 N. 33rd St., Philadelphia, secretary.

Delta Sigma Delta • Marlborough-Blenheim Hotel, September 28-October 1. Stephen G. Applegate, 4660 Buckingham Rd., Detroit, secretary.

Psi Omega • Ambassador Hotel, October 1, banquet. William S. Harman, 3313 West St., Wierton, W. Va., secretary.

Sigma Epsilon Delta • Traymore Hotel, October 3, luncheon. Jerome A. Boley, 294 New York Ave., Brooklyn, secretary.

Xi Psi Phi • Traymore Hotel, October 1, banquet. William E. Koch, Jr., Metropolitan Bldg., St. Louis, secretary.

Social events

PRESIDENT'S DINNER

"On the Boardwalk in Atlantic City" is the theme of the President's Dinner, honoring Association president Bernerd C. Kingsbury. The dinner will be preceded by a cocktail party and followed by an evening of entertainment starring performers from New York's Broadway. The affair will be in the American Room of the Traymore Hotel, Wednesday, October 3.

Reservations may be made by writing Eugene Westcott, Sr., chairman of the Local Arrangements Committee, Mayfair Apartments, Albany and Atlantic Aves., Atlantic City, N. J. Tickets are $8.50 a plate. Early reservations are recommended as tickets to this top social event of the annual session are expected to be sold out in advance.

GENERAL MEETING AND CONCERT

Eugene Ormandy conducts the famed Philadelphia Orchestra in a concert following the General Meeting, Tuesday, October 2, at the Warner Theatre in Atlantic City, N. J. The world-famed orchestra and distinguished conductor will perform works by Berlioz, Beethoven, Strauss and Ravel.

WOMEN'S ENTERTAINMENT

A ladies' luncheon and fashion show are features of the women's entertainment program. The fashion pageant, entitled "Salute to American Fashions," will present original creations by American designers. These two events are Tuesday, October 2, in the Carolina Room of the Chalfonte Hotel. The price for the luncheon and fashion show is $4.

A Ladies' Hospitality Center will be open in Haddon Hall throughout the annual session. Hostesses will plan tours to points of interest in and around the seaside resort.

House of Delegates

Hillenbrand, Harold, 222 E. Superior St., Chicago, secretary

*Timmons, Gerald D., 3223 N. Broad St., Philadelphia, speaker

Ex-officio Members

Kingsbury, Bernerd C., 490 Post St., San Francisco, president

Lyons, Harry, School of Dentistry, Medical College of Virginia, Richmond, Va., president-elect

Herz, Francis J., 450 Sutter St., San Francisco, first vice-president

*Hansen, Magnus C., 420 Seventh St., Racine, Wis., second vice-president

Kennebeck, Marvin E., USAF, DC, Office of the Surgeon General, Washington, D. C.

Camalier, C. Willard, 1726 Eye St., N.W., Washington, D. C., assistant secretary

Cruttenden, Louis M., 222 E. Superior St., Chicago, assistant secretary

Washburn, H. B., Lowry Medical Arts Bldg., St. Paul, treasurer

Morrey, Lon W., 222 E. Superior St., Chicago, editor

Trustees

Easton, Arthur W., 171 Main St., Norway, Maine

Jones, Earl G., 185 E. State St., Columbus, Ohio

Schopper, A. F., Professional Bldg., Kansas City, Mo.

Thom, Lewis W., Medical Arts Bldg., Minneapolis

Abel, John R., 10231 Santa Monica Blvd., Los Angeles

Alstadt, William R., Boyle Bldg., Little Rock, Ark.

*Phillips, Percy T., 18 E. 48th St., New York

Renouard, Clarence S., Phoenix Bldg., Butte, Mont.

*Higgins, Howard B., Montgomery Bldg., Spartanburg, S. C.

Jacob, L. H., Jefferson Bldg., Peoria, Ill.

Jeserich, Paul H., School of Dentistry, University of Michigan, Ann Arbor, Mich.

Patton, Charles H., 235 S. 15th St., Philadelphia

*White, Edward R., 921 Bergen Ave., Jersey City

Past Presidents

Volland, Roscoe H., 204½ E. Washington St., Iowa City

Casto, Frank M., Box 868, La Jolla, Calif.

Miner, LeRoy M. S., 363 Marlborough St., Boston

Camalier, C. Willard, 1726 Eye St., N.W., Washington, D. C.

Ward, Marcus L., 1308 Cambridge Rd., Ann Arbor, Mich.

Merritt, Arthur H., 580 Fifth Ave., New York

*Oliver, Oren A., 1915 Broadway, Nashville, Tenn.

*Robinson, J. Ben, School of Dentistry, West Virginia University, Morgantown, W. Va.

*Wells, C. Raymond, 1 DeKalb Ave., Brooklyn

Mead, Sterling V., 1149 16th St., N.W., Washington, D. C.

Washburn, H. B., Lowry Medical Arts Bldg., St. Paul

Minges, Clyde E., Peoples Bank Bldg., Rocky Mount, N. C.

Adams, Philip E., 170 Marlborough St., Boston

Oppice, Harold W., 1002 Wilson Ave., Chicago

Ennis, LeRoy M., 4001 Spruce St., Philadelphia

Brandhorst, Otto W., 4221 Lindell Ave., St. Louis

FitzGerald, Leslie M., 718 Roshek Bldg., Dubuque, Iowa

Lynch, Daniel F., 1678 Primrose Road, N.W., Washington, D. C.

*Serving as an elected delegate.

Members

ALABAMA

Delegates

Goodwin, W. E., First National Bank Bldg., Montgomery
Edwards, Duke, 132 Adams St., Montgomery
Davis, Dupree, 209 Troy St., Dothan
Lokey, Charles, Jr., Empire Bldg., Birmingham

Alternates

Strong, L. B., Jr., 2911½ N. 27th St., Birmingham
Kirkland, Olin, Shepherd Bldg., Montgomery
Jones, Tom, 1807 11th Ave., Birmingham
Breland, Kenneth, 1528 Telegraph Rd., Chickasaw

ARIZONA

Delegates

Pecharich, Joseph T., Box K., Jerome
Dent, Charles F., 3935 E. Pima, Tucson

Alternates

Long, Paul V., Medical Center, Kingman
Bland, George B., 123 S. Stone, Tucson

ARKANSAS

Delegates

Brannan, L. W., Piggott
Goforth, Gerald, Mena
Hamm, Don M., Clarksville

Alternates

Flickinger, H. M., Siloam Springs
Gunn, James V., 625½ Beech, Little Rock
Moseley, Hugh, Jr., Warren

CALIFORNIA

Delegates

Benediktson, John B., 1624 Franklin St., Oakland
Bishop, Lyall O., 1261 Broadway S., Walnut Creek
Chartrand, Browning O., 1574 McDaniel Ave., San Jose
Cunningham, Mervin G., 2240 Channing Way, Berkeley
Frates, Robert C., 656 Clement St., San Francisco
Healy, Walter J., 450 Sutter St., San Francisco
Hicok, Eldridge L., 348 Market St., Colusa
Kneass, Marcellus S., Bank of America Bldg., San Jose
Leach, Edmund J., 464 S. Main St., Salinas
Ludwigsen, Lawrence R., 1425 Mendell St., San Francisco
McGinnis, Ray E., 895 Main St., Santa Clara
Quigg, G. Thomas, 450 Sutter St., San Francisco
Smith, William S., 450 Sutter St., San Francisco
Taber, Loren B., 344 Fourteenth St., San Francisco
Weeden, Joseph B., 261 Hamilton Ave., Palo Alto

Alternates

Bajuk, John H., 1551 Webster St., Alameda
Carfagni, Arthur B., 4651 Mission St., San Francisco
DeWitt, Roscoe H., 1624 Franklin St., Oakland
Donnelley, Patrick H., 660 Middlefield Rd., Palo Alto
Fitzgerald, George N., 1127 Eleventh St., Sacramento
Godbolt, Fred B., 314 Walnut St., Red Bluff
Kingsbury, Bernerd C., Jr., 630 Tennessee St., Vallejo
Kohler, Kent F., 2200 Grove St., Berkeley
Loveall, Benjamin F., 1500 Marsh St., San Luis Obispo
Patterson, William J., 152 Keller St., Petaluma
Ropes, Edwin J., Dental Bldg., Woodlake
Schraft, Robert O., 450 Sutter St., San Francisco
Tocchini, John, 344 Fourteenth St., San Francisco
Smith, Elbert H., Fulton Fresno Bldg., Fresno
Volonte, Henry J., 205 Third Ave., San Mateo

SOUTHERN CALIFORNIA

Delegates

Silverman, S. Mayo, 5410 Wilshire Blvd., Los Angeles
Jones, Howard V., 6114 Franklin Ave., Los Angeles
Steen, John M., 2290 Sixth Ave., San Diego
Willey, Robert E., 3721 Stocker St., Los Angeles
Harding, J. C. A., 311 Nutmeg, San Diego
Kurtz, Bruce R., 960 E. Green St., Pasadena
Ralston, Melvin E., Medico-Dental Bldg., Pomona
White, John J., 2111 18th St., Bakersfield
Tylicki, B. M., 547 E. Broadway, Long Beach
Openshaw, Rulon W., 6703 Melrose Ave., Los Angeles

Jones, J. Lorenz, 903 Crenshaw Blvd., Los Angeles
Williams, Carlton H., 1963 Fourth Ave., San Diego
Rounds, Jack, 3875 Wilshire Blvd., Los Angeles
Moss, C. Albert, 1135 W. Huntington Dr., Arcadia
James, Allison G., 409 Camden Dr., Beverly Hills
Bowers, James P., 124 W. Lime St., Monrovia
Wingfield, L. A., 7024 Melrose Ave., Los Angeles
McNulty, Robert W., 925 W. 34th St., Los Angeles
Tennis, Phillip J., 3875 Wilshire Blvd., Los Angeles

Alternates

Abramson, Allyn S., 6363 Wilshire Blvd., Los Angeles
Openshaw, D. Lynn, 727 W. Seventh St., Los Angeles
Wilson, John B., 1427 San Marino Ave., San Marino
Paul, Cassius E., 201 W. 15th St., Santa Ana
Kulstad, Hugo M., 1621 17th St., Bakersfield
Bleecker, Harry, 2595 Huntington Dr., San Marino
Conley, Francis, 1052 W. Sixth St., Los Angeles
Ziegler, J. Eugene, 3875 Wilshire Blvd., Los Angeles
Coleman, Alfred I., 2501 W. Santa Barbara, Los Angeles
Cowan, Lawrence, 800 E. Compton Blvd., Compton
Strang, Douglas, 3875 Wilshire Blvd., Los Angeles
Halvorson, E. W., 5514 Wilshire Blvd., Los Angeles
McNeil, Murray T., 1401 S. Hope St., Los Angeles
Stahler, H. E., Security Bldg., Long Beach
Gilman, C. W., 219 E. Eighth Ave., National City
Rasmussen, Carl, 1330 S. Vermont Ave., Los Angeles
Alter, Charles H., 1290 N. Garey, Pomona
Anderson, Albert, 3355 Fourth Ave., San Diego
Beesemyer, N. Louis, 415 N. Camden Dr., Beverly Hills

COLORADO

Delegates

Clarke, Arthur G., Republic Bldg., Denver
Dwire, George J., Exchange National Bank Bldg., Colorado Springs
Humphrey, William Roy, Republic Bldg., Denver
Peterson, Fred A., 1477 Penn St., Denver
Patterson, C. W., 1602-16th St., Greeley

Alternates

Bosma, George O., 2131 N. Seventh St., Grand Junction
Messinger, Thomas F., 629 N. Nevada Ave., Colorado Springs
Jackson, George H., Empire Bldg., Denver
Proctor, Hobart H., Metropolitan Bldg., Denver
Amiot, Sterling L., 1135 Pearl St., Boulder

CONNECTICUT

Delegates

Arnold, Earle S., 37 Linnard Rd., West Hartford
Eichenbaum, Irving W., 24 Washington St., New Britain
Englander, Jesse J., 76 John St., Bridgeport
Gengras, Alfred J., Jr., 750 Main St., Hartford
Harold, Frederic S., 291 Whitney Ave., New Haven
Monks, Leon C., 265 Church St., New Haven
Ostrander, Roger V., 20 E. Main St., Waterbury
Zazzaro, Michael J., 99 Pratt St., Hartford

Alternates

Chernoff, Phillip M., 159 Broad St., Middletown
Coy, Harry C., 57 Pratt St., Hartford
Gillroy, Kenneth M., 65 South St., Stamford
Hicks, Henry, 5 Glen Ct., Greenwich
MacDonald, Alan L., 302 State St., New London
Peterson, Clarence E., 9 Elm St., Rockville
Quinn, Henry T., 255 Greenwich Ave., Greenwich
Schneider, Francis M., 240 Bradley St., New Haven

DELAWARE

Delegates

Musselman, Paul K., 143 W. Main St., Newark
Nelson, Clyde A., Milford

Alternates

Kreshtool, Louis, 1700 Washington St., Wilmington
Mach, Joseph S., 216 Pine St., Seaford

DISTRICT OF COLUMBIA

Delegates

Ingersoll, William Brown, 1220-16th St., N.W., Washington

Leifer, Edward D., Colorado Bldg., Washington
Fitzgibbon, David J., 1150 Connecticut Ave., N.W., Washington
O'Keefe, John A., 1801 K St., N.W., Washington

Alternates

Lady, Howard R., 800 E St., N.E., Washington
Madden, Joseph A., 4303-16th St., N.W., Washington
Skinner, Victor V., 1418 Good Hope Rd., S.E., Washington
Floria, Bruno G., 1029 Vermont Ave., N.W., Washington

FLORIDA

Delegates

Gillespie, Rupert H., Citizens Bldg., West Palm Beach
Kellner, A. W., Box 155, Hollywood
Masters, C. J., Saint James Bldg., Jacksonville
Mayo, Wallace C., Blount Bldg., Pensacola
Price, Thomas A., Congress Bldg., Miami
Thoburn, Robert, 227 Orange Ave., Daytona Beach

Alternates

Meyer, F. P., Sr., Hall Bldg., St. Petersburg
Penn, E. B., Huntington Bldg., Miami
Perdigon, G. J., 17 Davis Blvd., Tampa
Stewart, Clad C., 2500 First Ave., N., St. Petersburg
Turner, Drew H., Box 3293, Station F., Jacksonville
York, Fred M., 640 Beach Dr., N.E., St. Petersburg

GEORGIA

Delegates

Banks, W. H., Montezuma
Johnston, Charles L., Galt Bldg., Canton
Martin, Ben M., 1101 N. Monroe St., Albany
Garrett, William A., Candler Bldg., Atlanta
Wilson, F. H., Griffin

Alternates

Maxwell, Vaughn L., 623 Greene St., Augusta
Robinson, Robert D., Candler Bldg., Atlanta
Yarbrough, C. A., Southern United Bldg., Macon
Drew, William P., Gordon Bldg., Brunswick
Farmer, Frampton W., 700 Spring St., Macon

HAWAII

Delegates

Chang, Sau Yee, Box 1711, Lihue, Kauai
Yuen, William N., Box 1015, Hilo

Alternates

Dawe, John H., 810 N. Vineyard St., Honolulu
Serrao, Louis G., Box 904, Hilo

IDAHO

Delegates

Hoarty, Walter J., Eastman Bldg., Boise
Cutler, Allen R., 401 Idaho St., Boise

ILLINOIS

Delegates

Starshak, T. C., 753 E. 79th St., Chicago
Isenberger, C. F., Box 47, Lanark
Clopper, Paul W., Jefferson Bldg., Peoria
Pollock, Robert J., 1011 Lake St., Oak Park
Elson, J. Malcolm, Jefferson Bldg., Peoria
Baughman, D. C., 1221 Charleston Ave., Mattoon
Corcoran, W. C., 5514 Broadway, Chicago
DeRose, Michael, 3643 Chicago Ave., Chicago
Dundon, W. E., 111 N. Wabash Ave., Chicago
Ebert, Elmer M., 10058 Ewing Ave., Chicago
Emerson, Moreland, State Bank Bldg., Breese
Fehrenbacher, F. J., Chalstrom Bldg., Joliet
Fitz, G. Herbert, Sterry Bldg., Pontiac
Fonda, James E., 799 Elm St., Winnetka
Gronner, Curt J., 118½ E. Main St., Morrison
Hughes, L. W. M., 55 E. Washington St., Chicago
Kartheiser, P. J., Graham Bldg., Aurora
Kling, Richard, 514 Market St., Mount Carmel
Lace, John L., 11112 S. Michigan Ave., Chicago
Lee, Robert E., Waverly
McLellan, R. W., Carthage
Madda, Carl J., 25 E. Washington St., Chicago
Opdahl, O. S., 6280 W. North Ave., Chicago
Osmanski, William T., 2404 Lincoln Ave., Evanston
Tedrow, B. H., Taylorville
Wenger, Herman R., 5601 W. Irving Park Rd., Chicago
Zielinski, Joseph B., 3147 Logan Blvd., Chicago

Alternates

Hanson, Clarence A., 715 Lake St., Oak Park
Sowle, William H., 2122 N. Main St., Rockford
Chrisman, James, 710 N. East St., Bloomington
Johnson, Willard R., 7454 Cottage Grove Ave., Chicago
Burke, Russell J., First National Bank Bldg., Peoria

Gonwa, Walter J., Chrisman
Schoen, William P., Jr., 6355 Broadway, Chicago
Vogt, George F., 9 S. Kedzie Ave., Chicago
Gould, Gerson M., 755 N. Ashland Ave., Chicago
Stark, Adolph F., 4010 Madison St., Chicago
Carlton, M. W., McLeansboro
Ciocca, Harry F., Medical Arts Bldg., LaSalle
Fitz-Henry, Dale F., Corn Belt Bank Bldg., Bloomington
Tolar, William F., 6804 Windsor Ave., Berwyn
Schmelzel, W. G., 328 W. First St., Geneseo
Kingston, N. A., 182 E. 154th St., Harvey
Danforth, H. D., Box 114, Cissna Park
Hemphill, C. J., 200 W. Third St., Alton
Nock, Walter J., 2735 Devon Ave., Chicago
Thoma, George E., Illinois Bldg., Springfield
Fry, H. M., Masonic Temple Bldg., Macomb
Kelly, Walter E., 27 S. Pulaski Rd., Chicago
Riemer, Robert V., 55 E. Washington St., Chicago
Lippert, J. L., 55 E. Washington St., Chicago
Thompson, Edward C., 602 W. University St., Champaign
Kanchier, Paul, 9300 Cottage Grove Ave., Chicago
Rowland, LeRoy T., 13053 Western Ave., Blue Island

INDIANA

Delegates

Asher, Paul H., 3807 Washington St., Gary
Hine, Maynard K., 1121 W. Michigan St., Indianapolis
Shoemaker, W. R., Citizens Bank Bldg., Anderson
Baker, Frederick C., Calumet Bldg., Hammond
Bennett, Rollie A., Anderson Bank Bldg., Anderson
Griswold, Joseph H., Medical Arts Bldg., Richmond
Healey, Harry J., 1121 W. Michigan St., Indianapolis
Kelly, William N., 806 Blackman St., Clinton
McNulty, Wilbur P., 3501 S. Harrison St., Fort Wayne

Alternates

Crum, Walter A., 514 W. Main St., Richmond
Mason, Herbert W., 658 Fairfield Ave., Indianapolis
Mayfield, Clyde T., 2012 W. Sycamore St., Kokomo
Montgomery, E. A. W., Hulman Bldg., Evansville
Morris, Joseph E., 303 S. Fifth St., Decatur
Shields, Seth W., Seymour
Simons, Orin E., 823 Massachusetts Ave., Indianapolis
Smith, Franklin A., First National Bank Bldg., Richmond
Williams, James E., Murdock Bldg., Lafayette

IOWA

Delegates

Dick, Leo G., Oakland
Foster, C. S., Dows Bldg., Cedar Rapids
Nason, H. E., Orpheum Electric Bldg., Sioux City
Anderson, G. C., Avoca
Foster, J. E., 9 N. Federal, Hampton
Goen, D. J., Manchester
Stonebrook, H. W., Eldora

Alternates

Wilson, H. I., Insurance Exchange Bldg., Des Moines
Scott, William L., Iowa State Bank Bldg., Clinton
Raymond, T. C., Bankers Trust Bldg., Des Moines
Coles, Frank V., Central States Bldg., Mount Pleasant
Eaton, E. M., American Bldg., Cedar Rapids
Sanner, C. G., Roshek Bldg., Dubuque
Larson, LeRoy N., Carver Bldg., Fort Dodge

KANSAS

Delegates

Carothers, Frank C., Carter Bldg., Garnett
Lucas, J. Wesley, First National Bank Bldg., Wichita
Richmond, Fred A., Brotherhood Bldg., Kansas City
Stalker, Clinton L., Mills Bldg., Topeka
Teall, Gordon L., Hiawatha

Alternates

Bellinger, Willard R., 112 W. Seventh St., Topeka
Bunker, Herbert L., 227 W. Seventh St., Junction City
Edwards, Harold J., A. C. Office Bldg., Arkansas City
Hedge, Dan A., Hoisington
Klenda, Harry M., First National Bank Bldg., Wichita

KENTUCKY

Delegates

Tagliarino, V. A., 2404 S. Preston St., Louisville
McElrath, H. M., Box 287, Murray
Elam, Arthur M., Citizens Bank Bldg., Lexington
Coxwell, A. B., 1976 Douglass Blvd., Louisville

Myers, Raymond E., 129 E. Broadway, Louisville

Alternates

Hower, Frank B., Heyburn Bldg., Louisville
Salyer, Gorman P., 82 Main St., Paintsville
Kelly, J. J., 102 W. Madison St., Franklin
Lyddan, P. H., Francis Bldg., Louisville
Carter, Charles C., 1032 College St., Bowling Green

LOUISIANA

Delegates

Smith, Alfred E., 1936 S. Carrollton Ave., New Orleans
Smith, J. Melville, Maison Blanche Bldg., New Orleans
McHardy, Colin A., P.O. Box 727, Baton Rouge
Earnest, J. Claude, Bernhardt Bldg., Monroe
Pope, Thomas W., Jr., Medical Arts Bldg., Shreveport

Alternates

Dupuy, Larry J., Maison Blanche Bldg., New Orleans
Marquer, Victor B., 2213 S. Carrollton Ave., New Orleans
Emmer, Andrew, New Iberia
Levy, Stanley S., Medical Arts Bldg., Lake Charles
Vernon, W. G., Colonial Clinic, 505 Johnston St., Alexandria

MARYLAND

Delegates

Broadrup, C. E., Frederick
Cappuccio, J. P., 1010 St. Paul St., Baltimore
Chanaud, N. P., Centreville
Clendenin, G. B., 4406 East-West Highway, Bethesda
Nuttall, E. B., University of Maryland Dental School, Baltimore

Alternates

Ditzler, N. W., 100 Cedar Ave., Takoma Park
Emmart, L. L., 4715 Liberty Heights Ave., Baltimore
Ferguson, J. H., Jr., Medical Arts Bldg., Baltimore
Pessagno, E. L., Medical Arts Bldg., Baltimore
Preis, K. W., 700 Cathedral St., Baltimore

MASSACHUSETTS

Delegates

Holland, Daniel J., 1146 Beacon St., Brookline
Tingley, Harold E., 12 Bay State Rd., Boston
Cleary, William F., 100 Melville Ave., Dorchester
Chaikin, Bernard S., 29 Commonwealth Ave., Boston
Hoye, Harold C., 36 Walker St., Somerville
Myles, John R., 60 Brattle St., Cambridge
Sturgis, Edwin A., 40 Pleasant St., Marblehead
Allen, Albert J., 857 Washington St., South Braintree
Brown, George Cowles, 332 Main St., Worcester
Grossman, Maurice F., 301 Essex St., Lawrence
Hamel, Fernand B., 278 Bay St., Taunton
Moran, John F., 44 Vernon St., Springfield
Deslauriers, Joseph A., 112 Main St., Chicopee Falls
Fitzgerald, Paul, 30 Central St., Stoneham

Alternates

Fink, George J., 416 Marlborough St., Boston
Goldman, Henry M., 482 Beacon St., Boston
Hookway, Harold H., 10 High St., Boston
Miner, Richard L., 363 Marlborough St., Boston
Rounds, Charles Elder, 403 Commonwealth Ave., Boston
Delaney, R. Wilfred, 2161 Massachusetts Ave., Cambridge
Pickering, Clinton W., 23 Central Ave., Lynn
Quinn, Thomas W., 270 Quincy Ave., Quincy
Rubin, Joseph S., 507 Main St., Worcester
Vurgaropulos, Arthur C., 45 Merrimack St., Lowell
Alves, Henry A., Jr., 51 Ingell St., Taunton
Johnston, L. Roy, Sheldon Bldg., Greenfield
Corriveau, Joseph A., 1694 Main St., Springfield
Bailey, Robert M., III, 445 Highland Ave., Malden

MICHIGAN

Delegates

Hart, Raymond A., 427 N. Michigan Ave., Saginaw
Lowther, Alfred H., Mutual Bldg., Detroit
Walmoth, Raymond W., Mutual Bldg., Detroit
Wertheimer, Fred, Michigan Department of Health, Lansing
Sawicki, Alphonse C., 7012 Michigan Ave., Detroit
Ostrander, Floyd D., School of Dentistry, University of Michigan, Ann Arbor
Beukema, J. P., 833 Lake Dr., S.E., Grand Rapids
Jesson, S. P., 1083 E. Maple, Birmingham
Ryan, K. J., 901 Welch Blvd., Flint
Donnelly, A. J., Liberty Life Bldg., Muskegon
Leitch, M. A., 14807 W. McNichols Rd., Detroit

Short, J. R., 2901 S. Westnedge Ave., Kalamazoo
Cheney, E. A., Bank of Lansing Bldg., Lansing
Harling, C. W., 15510 Mack Ave., Grosse Point
Johnson, V. K., 112 S. 10th St., Escanaba
Burkman, N. W., 525 Merrill St., Birmingham

Alternates

Barton, G. E., 427 N. Michigan Ave., Saginaw
Blackerby, P. E., Jr., 31 Piper St., Battle Creek
Brooks, G. R., National Bank Bldg., Rochester
Champagne, J. L., 3714 W. McNichols Rd., Detroit
Fountain, H. W., American National Bank Bldg., Kalamazoo
Gardey, A. G., Second National Bank Bldg., Saginaw
Matson, C. H., Dryden Bldg., Flint
McDonald, C. C., 15311 E. Jefferson, Grosse Pointe Park
Overholt, R. L., 119 E. Grand River, East Lansing
Rochon, Rene, 630 E. Jefferson, Detroit
Sanregret, R. J., 106 E. Main St., Negaunee
Schied, E. L., 610 S. Brown St., Jackson
Shehan, H. L., Jackson Bldg., Jackson
Seyler, A. E., 14615 E. Jefferson, Detroit
Teal, D. M., 210 S. Main, Yale
Tossy, C. V., Michigan Department of Health, Lansing

MINNESOTA

Delegates

Clark, D. R., Medical Arts Bldg., Minneapolis
Hooper, R. D., 242 S. Cleveland, St. Paul
Nicol, J. J., 3657 Emerson Ave., N., Minneapolis
MacQueen, W. W., Physicians and Surgeons Bldg., Minneapolis
East, C. D., 5701 Grand Ave., Duluth
Bradshaw, R. R., Lowry Medical Arts Bldg., St. Paul
Pike, Joseph M., Granite Exchange Bldg., St. Cloud
Colby, Henry E., Medical Arts Bldg., Minneapolis
McGonagle, E. H., Royalton
Sitz, C. D., Austin
Larson, A. O., Marquette Bank Bldg., Minneapolis

Alternates

Cassel, C. V. E., Hamm Bldg., St. Paul
Jordan, W. A., Minnesota Department of Health Bldg., University of Minnesota, Minneapolis
Hyde, Walter, 4741 Fremont Ave., S., Minneapolis
Bothun, Mark, 401 N. Central Ave., Duluth
Wenberg, R. L., Mountain Lake
Eberhardt, Harold S., 1111 Nicollet Ave., Minneapolis
Walls, Milton G., Lowry Medical Arts Bldg., St. Paul
Drake, H. L., 2337 Central Ave., N.E., Minneapolis
Carlson, Wilbur A., Detroit Lakes
Royer, R. Quentin, Mayo Clinic, Rochester
Schouweiler, A. P., Red Wing

MISSISSIPPI

Delegates

Williams, Claude, Carter Bldg., Hattiesburg
Boswell, J. C., Lamar Life Bldg., Jackson
Busby, R. E., Hattiesburg

Alternates

Blackburn, Estes, 949 N. State St., Jackson
Campbell, H. M., Professional Bldg., Tupelo
Burnham, Timon J., Magee

MISSOURI

Delegates

Kornfeld, Max, Missouri Theatre Bldg., St. Louis
Wood, J. Lester, 3635a N. Newstead Ave., St. Louis
Ebeling, Paul A., 2114 E. Grand Ave., St. Louis
Ayres, Ryland M., 33 N. Meramec Ave., Clayton
Hamilton, Buford B., Richmond Clinic, Richmond
Owens, Claude, Professional Bldg., Kansas City
Dillon, E. L., Professional Bldg., Kansas City
Suggett, E. D., Merchants Bank Bldg., Jefferson City
Kies, V. L., Jackson
Wood, L. M., 227a Broadway, Hannibal

Alternates

Culver, R. C., 2335 Brown Rd., St. Louis
Kirby, Joseph V., 33 N. Meramec Ave., Clayton
Marre, John, Missouri Theatre Bldg., St. Louis
Vierheller, Phil G., Paul Brown Bldg., St. Louis
Ross, Gordon L., Professional Bldg., Kansas City
Kindred, F. H., 4615 Broadway, Kansas City
Duffendack, P. J., Professional Bldg., Kansas City
Grisham, V. Paul, 937 Broadway, Cape Girardeau
Shale, C. R., Macon
Kingsborough, E. O., Frisco Bldg., Joplin

MONTANA

Delegates

Vedova, E. G., P.O. Box 311, Roundup
Roche, John D., Whipps Bldg., Kalispell

Alternates

Balestra, Lawrence F., Billings Business College Bldg., Billings
Smith, George W., Dillon

NEBRASKA

Delegates

Sofio, A. R., Barker Bldg., Omaha
Pierson, F. A., Federal Securities Bldg., Lincoln
Carlson, N. C., 1246 Washington St., Lincoln
Baker, C. E., David City
Brennan, W. J., Medical Arts Bldg., Omaha

Alternates

Hinrichs, E. R., Sharp Bldg., Lincoln
Lamphere, W. W., 2720 O St., Lincoln
Cruise, T. J., Valentine
Seberg, J. R., 515 W. 9th St., Hastings

NEVADA

Delegate

Cafferata, Harold E., 190 Mill St., Reno

Alternate

Jacob, Leonard, 580 W. 5th St., Reno

NEW HAMPSHIRE

Delegates

Levesque, J. Gerard, 80 W. Pearl St., Nashua
Williams, Floyd E., 814 Elm St., Manchester

Alternates

Kaplan, H. Stanley, 71 Main St., Plymouth
MacRury, Elwood F., 19 Temple Ct., Manchester

NEW JERSEY

Delegates

Champlin, T. R., 525 Park Ave., Plainfield
Rosenwasser, Ben, 4809 Bergenline Ave., Union City
Lyons, Stephen M., 382 Springfield Ave., Summit
Giblin, William A., 85 Park St., Montclair
Palanky, William J., 995 S. Broad St., Trenton
Westcott, Eugene R., The Mayfair Apartments, Atlantic City
Lentz, Maxwell J., 655 Main Ave., Passaic
Saporito, Louis A., 15 Washington St., Newark
Quirk, Pierce A., 921 Bergen Ave., Jersey City
Newman, Eugene W., 16 Wallace St., Red Bank
Galdieri, D. J., Park Square Bldg., Morristown
White, Edward R., 921 Bergen Ave., Jersey City
Gindin, Jac P., 280 Hobart St., Perth Amboy
Crowe, Charles P., 521 Main St., East Orange
White, George J., 12 Broad St., Riverton
Nelson, Alfred W., 196 The Plaza, West Englewood

Alternates

Powers, Thomas F., 819 Park Ave., Plainfield
Gallus, Theodore A., 4912 Bergenline Ave., West New York
Levenson, Saul J., 821 N. Broad St., Elizabeth
Paul, Frank D., 148 Central Ave., Montclair
Dobronte, John, 857 Hamilton Ave., Trenton
Brown, Benjamin A., 36 S. California Ave., Atlantic City
Frost, Michael, 604 Van Houten Ave., Clifton
Rauch, Albin W., 551 S. Orange Ave., South Orange
Zlonczewski, Edward, 562 Jersey Ave., Jersey City
Campi, John G., Medical Arts Bldg., Asbury Park
Gindes, J. J., 45 Washington St., Morristown
Devlin, Gerard A., 121 Prospect St., Westfield
Levy, Milton A., 18 Hamilton St., Bound Brook
Coppola, Frank R., 969 S. Orange Ave., East Orange
Cranmer, Richard S., 3314 Federal St., Camden
Heydon, Luther A., 78 Central Ave., Hackensack

NEW MEXICO

Delegates

Eilar, J. S., 7 Medical Arts Sq., N.E., Albuquerque
Voda, I. L., 614½ Douglas Ave., Las Vegas

Alternates

Danley, William H., 116 Amherst Dr., S.E., Albuquerque
Reilly, Francis A., Farmington

NEW YORK

Delegates

Arthur, William, 308 N. Washington St., Rome
Asgis, Alfred, 7 E. 42nd St., New York
Battista, Peter L., 232 Delaware Ave., Buffalo

Bedell, Walter R., 49 Market St., Poughkeepsie
Bisnoff, Harry, 89-21 153rd St., Jamaica
Bowman, Harold, 89 East Ave., Rochester
Burnham, Michael S., 3366 Boston Rd., Bronx
Burns, William McGill, 80 Hanson Pl., Brooklyn
Calder, Charles, 105 Main St., Dansville
Fennelly, William A., 33 W. 42nd St., New York
Goldin, Leo, 314 Main St., Greenport
Gordon, Leo, 2 W. Park Ave., Long Beach
Greenwood, George D., 1060 Meigs St., Rochester
Greiper, Benjamin A., 369 E. 149th St., Bronx
Haran, Allan T., 2728 Tilden Ave., Brooklyn
Heinze, Robert L., One Hanson Pl., Brooklyn
Hunn, David, 46 Second St., Troy
Kelsey, Earl, Theresa
Krantz, Morris, 147 Mamaroneck Ave., White Plains
Lewis, J. Brayton, Pilgrim State Hospital, West Brentwood
Lodico, Louis J., 452 W. Church St., Elmira
Martin, Joseph W., 399 Seneca Parkway, Rochester
McCormack, Ormonde J., Keith Theatre Bldg., Syracuse
McHugh, Francis X., 576 Fifth Ave., New York
Meinhardt, Harry, Box 661, Kingston
Mesick, C. W., O.C.S. Bank Bldg., Syracuse
Michaelson, M. E., 240 Central Park W., New York
Obst, Joseph J., 8 Seventh Ave., Brooklyn
O'Connell, T. J., 121 E. Seneca St., Ithaca
Pankow, Charles, 902 Main St., Buffalo
Phillips, Percy T., 18 E. 48th St., New York
Quiggle, Lowell M., 63 S. Main St., Liberty
Riesner, Sidney E., 136 E. 36th St., New York
Rowbottom, Joseph T., 43 S. Forest Ave., Rockville Centre
Scheiner, Benjamin E., 2665 Grand Concourse, Bronx
Schick, Edgar C., 90 State St., Albany
Schlansker, William, 1721 Union St., Schenectady
Schure, Joseph, One Hanson Pl., Brooklyn
Shapiro, Gerald I., 37 E. 36th St., New York
Squires, Franklin A., 170 Maple Ave., White Plains
Standard, Stanley G., 225 W. 34th St., New York
Stiller, Aloys, 790 Tonawanda St., Buffalo
Stolzenberg, Jacob, One Nevins St., Brooklyn
Taft, Leo, 230 Hilton Ave., Hempstead
Taub, Herbert L., 163-03 89th Ave., Jamaica
Taylor, Walter, 9 St. Bernard St., Saranac Lake
Teich, Isidore, 535 Fifth Ave., New York
Terry, Irvin L., 25 Indian Church Rd., Buffalo
Wagner, Adolph G., 542 Rogers Ave., Brooklyn
Whalen, Harold, Temple Bldg., Rochester
Wilkie, Charles A., One Hanson Pl., Brooklyn
Zillmann, Paul W., 29 Walden Ave., Buffalo
Morse, Roland E., 14 W. 49th St., New York
Stern, Maurice N., 114-06 Queens Blvd., Forest Hills
Wells, C. Raymond, One DeKalb Ave., Brooklyn

Alternates

Abeloff, A. J., 8638 Bay Parkway, Brooklyn
Abelson, Louis I., 200 W. 59th St., New York
Agins, Theodore C., 160 Broadway, New York
Besdine, Matthew, 1182 Dean St., Brooklyn
Bowman, Ralph J., 121 E. 60th St., New York
Burr, LeRoy E., 97 Park Ave., Yonkers
Corn, Arthur, 88-24 166th St., Jamaica
Cross, A. A., Seneca Bldg., Ithaca
Curran, William S., 630 Fifth Ave., New York
Eaton, Leonard J., 115 Park Ave., Mount Vernon
Feltman, Nathan, 374 Madison Ave., Albany
Flynn, John T., Harwood Bldg., Scarsdale
Folley, J. Fred, 3½ Oxford Rd., New Hartford
Friedman, Joel, 499 Lincoln Pl., Brooklyn
Gawlowicz, Harry J., 27 Main St., Brocton
Glazier, George B., Bank Bldg., Gowanda
Gordon, Daniel, One Hanson Pl., Brooklyn
Gorski, Alexander, 366 Hudson Ave., Albany
Hayes, W. Merrick, Sr., 432 Delaware St., Tonawanda
Hutchins, William, 1710 Gilderland Ave., Schnectady
Isaacson, S. A., 501 Madison Ave., New York
Jackson, John A., 223 S. Main St., Albion
Kauffmann, Joseph H., 27 E. 95th St., New York
Knight, Hubert, State Tower Bldg., Syracuse
Larrabee, William H., Woolworth Bldg., Watertown
Lieban, E. Alan, 30 W. 59th St., New York
Miller, Donald H., 215 W. Water St., Elmira
Milstein, Louis, 165 N. Village Ave., Rockville Centre
Mullen, George E., 283 E. 17th St., Brooklyn
Murphy, William J., 151 Park Ave., Mount Vernon
Oringer, Maurice J., 22 W. 82nd St., New York
Pellegrini, F., 98-02 Astoria Blvd., East Elmhurst
Pinto, B., 11 Central Ave., Lawrence
Rodier, L. Joseph, 515 Ocean Ave., Brooklyn
Rohrer, Henry, 25 North St., Rochester
Rowland, John F., 384 Broadway, Saratoga Springs
Seldin, Jules B., 8 W. 40th St., New York

Shlefstein, I. H. L., 857 Eastern Parkway, Brooklyn
Stanton, Gilbert, 161-01 Jamaica Ave., Jamaica
Stone, Francis J., 537 Delaware Ave., Buffalo
Strot, Henry J., 125 Seventh Ave., Brooklyn
Tanchester, David, 120 Central Park S., New York
Voorhees, Ralph, 76 Barrington St., Rochester
Wenig, Hyman L., 253-02 Northern Blvd., Little Neck
Wiser, Bernard, 328 E. Main St., Rochester

NORTH CAROLINA

Delegates

Alford, Frank O., Liberty Life Bldg., Charlotte
Jackson, Wilbert, Rich Bldg., Clinton
Jones, Paul E., 502 S. Main St., Farmville
McFall, Walter T., Flatiron Bldg., Asheville
Poindexter, C. C., Jefferson Bldg., Greensboro
Walker, Bernard N., 301 Hawthorne Lane, Charlotte

Alternates

Atwater, Frank G., 1202 Madison Ave., Greensboro
Butler, Luther H., Jefferson Standard Bldg., Greensboro
Coffey, Ralph D., Box 270, Morganton
Owen, Olin W., 1201 E. Morehead St., Charlotte
Sherrod, W. B., Wachovia Bank Bldg., Winston-Salem
Thompson, Horace K., 3500 Oleander Dr., Wilmington

NORTH DAKOTA

Delegates

Rutten, H. R., 418½ Fourth Ave., Devils Lake
Robinson, W. C., 209 S. Main, Minot

Alternates

Fergusson, C. O., 108½ E. First St., Jamestown
Corbett, V. A., First National Bank Bldg., Minot

OHIO

Delegates

Steffel, Victor L., 19 W. Fifth Ave., Columbus
Lilly, Theodore E., Fidelity Bldg., Dayton
Heibert, Arthur C., Second National Bldg., Akron
Hoppe, H. J., 4187 Pearl Rd., Cleveland
McDermott, T. J., Rose Bldg., Cleveland
Moriarty, J. L., 131 E. Main St., Chillicothe
Niedhamer, H. J., Provident Bank Bldg., Cincinnati
Pryor, W. J., Rose Bldg., Cleveland
Reiman, H. A., 229 N. Market St., Wooster
Robinson, H. B. G., College of Dentistry, Ohio State University, Columbus
Secrest, B. G., Sr., Central National Bank Bldg., Cambridge
Bach, E. N., Professional Bldg., Toledo
Boucher, C. O., Beggs Bldg., Columbus
Creig, R. E., 10465 Carnegie Ave., Cleveland
Postle, W. D., College of Dentistry, Ohio State University, Columbus
Schmid, S. A., Federal Reserve Bank Bldg., Cincinnati
Sterling, W. J., 6412 Lorain Ave., Cleveland
Warren, P. J., 14805 Detroit Ave., Lakewood
Cummins, R. L., 350 E. Broad St., Columbus

Alternates

Reifke, John T., Rose Bldg., Cleveland
Stark, Carl J., B. F. Keith Bldg., Cleveland
Geurink, H. J., Rose Bldg., Cleveland
Helms, R. W., 1618 Broadway, Toledo
Smith, H. B., 336 E. State St., Columbus
Reid, H. A., Union Central Bldg., Cincinnati
Meier, L. C., 4169 Pearl Rd., Cleveland
Lytle, F. E., 125 William Howard Taft Rd., Cincinnati
Hamilton, I. N., 13½ S. Fountain Ave., Springfield
Svetlik, G. A., Rose Bldg., Cleveland
Newman, L. E., 10616 Euclid Ave., Cleveland
Allison, M. L., 9 Buttles Ave., Columbus
Smith, D. D., 130 E. Market St., Sandusky
Wilson, J. R., 336 E. State St., Columbus
Connor, P. L., Stambaugh Bldg., Youngstown
Williams, V. C., 1859 Dorr St., Toledo
Pfersick, C. M., 119 E. Market St., Washington C.H.
Sepkovich, N. J., Federal Bldg., Youngstown
Dumm, G. H., 154 N. Water St., Kent

OKLAHOMA

Delegates

Calkin, Rolla C., Calkin Bldg., Guthrie
Wagner, H. N., Morgan Bldg., Henryetta
Reichmann, F. J., Medical Arts Bldg., Oklahoma City
Pitney, Fred O., Medical Arts Bldg., Oklahoma City

Alternates

Wright, L. D., Osler Bldg., Oklahoma City
Tisdal, V. C., Jr., 617 W. Third, Elk City
McCracken, C. E., 1307 S. Main, Tulsa
Hess, C. A., 201 N. Fifth, Durant

OREGON

Delegates

Henderson, J. Warner, Scott Bldg., Hood River
Kunkel, Paul W., Sr., Selling Bldg., Portland

Holder, Thomas D., Selling Bldg., Portland
Crump, John D., 43 S.W. First Ave., Ontario
Kramer, Harold M., Weatherly Bldg., Portland
Prophet, William B., Prophet Bldg., John Day

Alternates

Redpath, George W., Medical Dental Bldg., Portland
Barnum, William L., Morgan Bldg., Portland
Noyes, Harold J., 809 N.E. Sixth Ave., Portland
Hurley, Ernest A., 809 N.E. Sixth Ave., Portland
Clarke, Alan Y., Professional Bldg., Portland

PANAMA CANAL ZONE

Delegate

DeGon, Kenneth C., Fort Clayton Dispensary, c/o Dental Clinic, Fort Clayton

Alternate

Sauser, Clare W., Fort Clayton Dispensary, c/o Dental Clinic, Fort Clayton

PENNSYLVANIA

Delegates

Finnerty, E. Harold, Medical Arts Bldg., Scranton
Fox, Thomas P., 1930 Chestnut St., Philadelphia
Sissman, Isaac, 4041 Jenkins Arcade, Pittsburgh
Nicholson, M. E., Shields Bldg., Pittsburgh
Timmons, Gerald D., 3223 W. Broad St., Philadelphia
Butts, Homer D., Jr., Union Trust Bldg., Pittsburgh
Oakley, Charles E., 307 Castle Shannon Blvd., Pittsburgh
Swanson, William F., 5326 Pocussett St., Pittsburgh
Hess, Lawrence E., 1243 W. Allegheny Ave., Philadelphia
Masino, Joseph V., 135 S. 36th St., Philadelphia
Herbine, Frederick W., 230 N. Fifth Street, Reading
Berry, Harrison M., Jr., 1415 Suffolk Lane, Philadelphia
Eshleman, Jay H., 6414 Germantown Ave., Philadelphia
Albert, Earl H., 821 Chestnut St., Lebanon
Jewells, Robert W., 132 E. Broad St., Tamaqua
Willits, Harry K., 750 N. 10th St., Reading
Edelman, Eli, 3130 Diamond St., Philadelphia
Yerkes, L. E., 825 Linden St., Allentown
Bodycomb, Robert M., 47 Main St., Dallas
Zimmerman, M. D., Warne Clinic Bldg., Pottsville
Goho, Albert, 513 N. Second St., Harrisburg
Martin, Malin D., 113 W. Lockhart St., Sayre
Holt, Robert, Jr., 540 Central Ave., Johnstown
Cupp, Lionel R., Mount Jewett National Bank Bldg., Mount Jewett
Everett, J. Edward, Centennial Bldg., New Castle
Gahles, Eugene M., Regent Bldg., Beaver Falls

Alternates

Reichard, Harry C., Riant Theatre Bldg., Conshohocken
McCracken, Philip F., 513 N. Second St., Harrisburg
Boucek, George P., 550 Grant St., Pittsburgh
Gilbert, Elton G., 110 N. Ninth St., Allentown
Manning, William Perry, 1327 Morris St., Philadelphia
Roberts, Baden P., 304 W. Main St., Plymouth
Ventura, A. L., 1201 DeKalb St., Norristown
Bolton, Richard W., 44 W. Market St., York
Fackler, James G., 633 W. Chestnut St., Lancaster
Bell, John H., 1434 Graham Ave., Windber
McDermott, Charles F., 14 Stratmore Ave., Pittsburgh
Piscator, John C., 3463 Frankford Ave., Philadelphia
Watson, Howard C., 1101 Edgmont Ave., Chester
Specker, John C., 211 S. State St., Clarks Summit
Bohn, J. Russell, 715 Washington St., Reading
Minnich, Howard B., 410 Woodcrest Ave., Lititz
Brown, Earle A., Bittner Bldg., Sunbury
Brightbill, Harry A., 403 S. Juliana St., Bedford
Lathrop, Laurence L., 14 W. Fourth St., Emporium
Phillips, Glenn S., 916 Grove St., Meadville
Flecker, Carl A., Peoples E. E. Bldg., Pittsburgh
Smith, Kenneth S., 1930 Chestnut St., Philadelphia

PUERTO RICO

Delegates

Rosso, Manuel A., Parque St., #409, Santurce
Dones, Marcos A., Box 9281, Santurce

Alternates

Carrasquillo, Reinaldo, Box 214, Rio Piedras
Padilla, Santiago, Box 926, Mayaguez

RHODE ISLAND

Delegates

Migliaccio, Nicholas, 1467 Westminister St., Providence
Friedman, Bernard C., 2 Ayrault St., Newport
Allen, J. Stafford, Union Trust Bldg., Providence

Alternates

MacIntosh, William D., Industrial Trust Bldg. Providence
DeCesare, William F., 216 Broadway, Providence
McGuirl, Hubert A., Union Trust Bldg., Providence

SOUTH CAROLINA

Delegates

Hines, F. B., Hartsville
Hair, P. B., Andrews Bldg., Spartanburg
Higgins, H. B., Montgomery Bldg., Spartanburg

Alternates

Douglass, John W., S.C. National Bank Bldg., Greenville
Harvin, H. T., Sumter
Owings, J. R., 7 Medical Ct., Greenville

SOUTH DAKOTA

Delegates

Shaeffer, J. H., Parker
Thelen, Leo N., 229 S. Prairie Ave., Sioux Falls

Alternates

Decker, R. E., Parker
Moriarty, L. J., Midland Bldg., Watertown

TENNESSEE

Delegates

Sullivan, D. A., 590 Church St., N.E., Cleveland
Martin, W. Wyatt, 115 W. Jefferson St., Pulaski
Oliver, Oren A., 1915 Broadway, Nashville
Sharp, J. Guilford, Medical Arts Bldg., Knoxville
Towner, Justin D., Exchange Bldg., Memphis
Ballentine, Andrew M., 215 W. Flower St., Pulaski

Alternates

Meacham, F. O., Hamilton Bank Bldg., Chattanooga
Morgan, Calvin V., Hamilton Bank Bldg., Johnson City
Maxey, Frank S., Bennie-Dillon Bldg., Nashville
Shanlever, Sam R., Bank of Knoxville Bldg., Knoxville
Jennings, Clyde E., 866 S. Cooper St., Memphis
McCulley, Wayne L., Brown Bldg., Cleveland

TEXAS

Delegates

Bridgford, R. D., 446 Walnut, Colorado City
Tipton, J. Roscoe, Medical Arts Bldg., Dallas
Ogle, Willard, 3707 Gaston Ave., Dallas
Pinkerton, Gus, 1000 Hospital Dr., Tyler
Murphey, Phelps J., 3702 Fairmount, Dallas
Kromer, Paul C., Nix Professional Bldg., San Antonio
Chambers, J. W., Central Office Bldg., Mercedes
Farmer, B. E., Capital National Bank Bldg., Austin
Morris, Glenn S., 2711 Crocker, Houston
Wilkinson, Bruce F., 1318 S. Beckham, Tyler
Hollers, James P., 4600 Broadway, San Antonio
Zappe, H. Arthur, 222 Baker Hotel, Mineral Wells
Hicks, Paul P., 119½ Simonton, Conroe

Alternates

Connally, W. L., 1031 E. Main, Alice
Cagle, Tyler W., 2807 Seventh St., Bay City
Schulze, H. E., First National Bank Bldg., Navasota
Bailey, J. W., Medical Center, Corpus Christi
Smith, Joe H., 3707 Gaston Ave., Dallas
Goodwin, J. J., Jr., Bramlette Bldg., Longview
Hayes, E. Neil, 304 North West Avenue B., Andrews
Young, J. Wells, Jr., 1403 Hailey St., Sweetwater
Voigt, Ott L., 4115 Fannin, Houston
McReynolds, J. T., Medical Arts Bldg., Dallas
Watson, O. C., Capital National Bank Bldg., Austin
Dixon, Robert B., 1401 Rio Grande, Austin
Puckett, John B., 1501 Arizona, El Paso

U. S. AIR FORCE

Delegate

O'Grady, Col. Charles S., USAF (DC), Deputy for Dental Professional Standards, Office of Assistant for Dental Services, Office of the Surgeon General, Hqs USAF, Washington, D. C.

Alternate

Cathroe, Brig. Gen. James S., USAF (DC), Deputy Assistant for Dental Services, Office of the Surgeon General, Hqs USAF, Washington, D. C.

U. S. ARMY

Delegate

Epperly, Brig. Gen. James M., Brooke Army Medical Center, Fort Sam Houston, Texas

Alternate

Meder, Col. Leland G., Office of The Surgeon General, Department of the Army, Washington, D. C.

U. S. NAVY

Delegate

Faubion, Bernard H., Capt. (DC) USN, Dental Division, Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

Alternate

Taylor, Ralph W., Rear Admiral (DC) USN, Third Naval District Headquarters, 90 Church St., New York.

U. S. PUBLIC HEALTH SERVICE

Delegate

Gerrie, Norman F., Public Health Service, Rm. 5038, HEW Bldg., South, Washington, D. C.

Alternate

Knutson, John W., Public Health Service, Rm. 5038, HEW Bldg., South, Washington, D. C.

U. S. VETERANS ADMINISTRATION

Delegate

Pyfrin, Sherman A., Veterans Administration, Vermont and H St., N.W., Washington, D. C.

Alternate

Fauber, J. E., Veterans Administration, Vermont and H Sts., N.W., Washington, D. C.

UTAH

Delegates

Poulson, L. A., Richfield
Dalgleish, R. C., Capitol Bldg., Salt Lake City
Funk, Marcus C., Medical Arts Bldg., Salt Lake City

Alternates

Merrill, M. W., 33 E. Second S., Provo
Nordberg, H. M., Tribune-Telegram Bldg., Salt Lake City
Vogel, G. W., Eccles Bldg., Ogden

VERMONT

Delegates

Walker, James A., 99 State St., Montpelier
Himes, Norman D., 116½ South St., Bennington

Alternates

Bentley, Charles W., 59 Main St., Middlebury
Larson, George, Service Bldg., Rutland

VIRGINIA

Delegates

John, James Edward, Medical Arts Bldg., Roanoke
Hodgkin, William N., Warrenton
Muir, Norborne F., Shenandoah Life Bldg., Roanoke
Bradshaw, John Pilcher, Medical Arts Bldg., Norfolk
Coy, Herbert D., School of Dentistry, Medical College of Virginia, Richmond
Tyree, John Cyrus, Professional Bldg., Richmond

Alternates

Todd, John Buxton, Masonic Bldg., Newport News
Bogikes, George W., 917 Prince St., Alexandria
Sanders, J. Barnes, Box 698, Richlands
Norfleet, William John, Jr., Box 131, Suffolk
Chevalier, Paul Louis, 11 E. Franklin St., Richmond
Costenbader, William Benjamin, 551 Olney Rd., Norfolk

WASHINGTON

Delegates

Edgers, Kenneth B., Medical and Dental Bldg., Seattle
White, Gail C., Becker Bldg., Aberdeen
Deines, John M., 227 Broadway N., Seattle
Shandley, Fred S., Medical and Dental Bldg., Seattle
Brust, William P., Medical Center, Everett
Moline, W. A., Paulsen Medical and Dental Bldg., Spokane
Dore, George D., Jr., Stimson Bldg., Seattle
Whittaker, W. Paul, Paulsen Medical and Dental Bldg., Spokane

Alternates

Philbrick, Richard C., Fourth and Pike Bldg., Seattle

Flood, Clyde R., Medical and Dental Bldg., Seattle
Roberts, Elden W., Security Bank Bldg., Olympia
Lindstrom, R. E., Medical and Dental Bldg., Bremerton
Compaan, Donald E., 12712 Renton Ave., Seattle

WEST VIRGINIA

Delegates

Gochenour, L. W., Professional Bldg., Clarksburg
Summers, H. E., F. H. N. B. Bldg., Huntington
Cottrill, C. C., Glen Rogers
Robinson, J. Ben, West Virginia University, School of Dentistry, Morgantown

Alternates

Dove, C. L., Iaeger
Moss, Hubert V., 3389 Main St., Weirton
Curry, W. W., Box 402, Holden
Edwards, Francis L., 822 S. Kanawha St., Beckley

WISCONSIN

Delegates

Kelly, J. D., Rivoli Bldg., La Crosse
Nelson, C. A., Amery
LeSage, G. A., 1320 Tower Ave., Superior
Buehrle, R. J., 1707 Main St., LaCrosse
Sinkler, C. A., Minahan Bldg., Green Bay
Skaalen, L. O., 215 N. Fourth St., Stoughton
Bleier, H. R., 4177 N. Oakland Ave., Milwaukee
Moen, O. H., Masonic Temple, Watertown
Huxtable, H. S., Mineral Point
Hollingsworth, J. S., 516 A.N. Eighth St., Sheboygan
Donovan, J. M., 211 E. Wisconsin Ave., Neenah
Martin, F. J., Medford

Alternates

Casey, L. J., Chippewa Falls
Spika, J. M., Exchange Bldg., La Crosse
Prees, R. J., Box W.R., Green Bay
Kopp, A. E., Wells Bldg., Milwaukee
Hansen, M. C., 420 Seventh St., Racine
Ralph, G. G., 114 N. Carroll St., Madison
Failor, C. B., Oostburg
Mortell, J. F., Sr., First National Bank Bldg., Oshkosh
Bennett, Glenn, Wisconsin Rapids
Mason, R. A., 964 N. 27th St., Milwaukee
Semrau, J. S., 1401 S. 35th St., Milwaukee
Spaeth, V. K., Chippewa Falls

WYOMING

Delegates

Drew, T. J., State Office Bldg., Cheyenne
Keefe, C. Q., Hynds Bldg., Cheyenne

Alternate

Ebinger, F. W., 843 S. Center St., Casper

AUGUST 1956

LON W. MORREY, D.D.S., EDITOR
VOLUME 53 • NUMBER 2
Published by the American Dental Association
222 East Superior Street • Chicago 11, Illinois

THE Journal OF THE AMERICAN DENTAL ASSOCIATION

Editorials

Congress increases funds for dental research to enable a heavier attack on dental disease

One of the principal pieces of legislation enacted by the present Congress is Public Law 635, signed by the President on the twenty-ninth day of June. Public Law 635 provides a record-breaking annual appropriation of $184,000,000 for the National Institutes of Health. It is of the utmost concern to the dental profession, as the legislation includes $6,026,000 for dentistry of which nearly $5,000,000 is for dental research. Of this sum $3,715,000 is allocated for research grants to the dental schools and dental research centers, fellowships and training grants. The long-awaited expansion of research in dental schools is now at hand.

This year's appropriation for dental health activities of the Public Health Service is $3,890,000 more than was appropriated for that purpose last year, and about $3,000,000 more than the amount approved by the Bureau of the Budget last January. Thus both the Senate and House of Representatives by overwhelming majorities decided that a frontal attack on dental disease through research must be intensified. In effect Congress has enunciated a public policy which should act as a guide to those in other high places in government, namely, those who are responsible for planning federal appropriations for research in the various fields of health.

Certainly the need to expand and intensify dental research can no longer be questioned. Essentially the entire population of the United States suffers from dental disease. The country's gross dental bill grows greater each year—it reached more than a billion and a quarter dollars in 1955. Many questions regarding the cause of dental caries are yet to be answered, and little is known about the etiology of periodontal diseases. Seven per cent of cancerous conditions occur in the

mouth, and one child in eight hundred is born with clefts of the lip or palate. Faced with these facts, who, in a country as intelligent as America, can question the need for dental research? And, as dental disorders affect the health and economy of the nation as well as of the individual, who, in a country as prosperous as the United States, can question the use of federal funds for research designed to eliminate such disorders?

Yet such questions were asked by Congress, and the six million dollar appropriation for dentistry was not obtained until the questions of Congress were answered. Long months of tireless educational effort by the Association, aided by the faculties of the nation's dental schools, countless other organizations and individuals, were required before Congress was convinced of the seriousness of the nation's dental problem and approved this much-needed appropriation.

Today the Association, for itself and for the organizations associated with it, takes this means of acknowledging its gratitude to all its friends in Congress, and particularly to Senator Lister Hill (Ala.) and Representative John E. Fogarty (R.I.), for their cooperation, leadership and informed judgment which enabled the profession to sow the seed for additional methods of preventing dental disorders. Tomorrow when the results of these efforts will have borne fruit, a grateful and healthier posterity also will thank them.

Tobacco, lung cancer and the dentist

The association between tobacco smoking and cancer of the lung is being increasingly conjectured by investigators. Studies from England, the United States, Finland, Germany, the Netherlands and Switzerland report a higher percentage of heavy smokers and a lower percentage of nonsmokers among lung cancer patients in those countries. Hill and Doll[1] found 7 nonsmoking men in 1,357 men with lung cancer (0.5 per cent) and 40 nonsmoking women in 108 women with lung cancer (37 per cent). Other investigators have shown that the liability to lung cancer seems to bear a fairly direct relationship to the amount of tobacco consumed. Still other authorities discount these statements and attribute the seeming increase in the prevalence of lung cancer to improved methods of case finding.

The reported enormous increase in the incidence of the disease in the past 40 years, however, cannot all be explained by improved methods of diagnosis. Postmortem examinations were just as carefully done in 1920 as in 1956. Forty years ago, lung cancer was responsible for only one of every 100 cancer deaths. Now the ratio has risen to one in eight. The mounting incidence parallels the enormous rise in smoking and in air pollution from the exhausts of motor vehicles, trains and from various industries.

If smoking is a cause of lung cancer, it seems true that it cannot be the only cause, for the disease occurs in persons who have never smoked. But if air pollution were the cause of the grave rise in the incidence of lung cancer, the mortality figures would be the same for smokers as for nonsmokers. It is obvious that, whatever the cause or causes of lung cancer, the liability of the smoker is considerably greater.

Tobacco is culpable from a second standpoint. Smoking serves to mask cancer of the lung until it is too late to halt its progress. The sixth of the seven danger signals of

cancer—persistent hoarseness or cough—tends to be overlooked by the smoker, for he may blame all types of coughs on tobacco and fail to investigate further.

Insofar as the dentist is concerned, tobacco in any form is culpable from a third standpoint. The odor of tobacco or tobacco smoke on the dentist's hands or breath is objectionable to many patients—particularly so to fastidious patients. This fact is being increasingly stressed in dental literature. In the April issues of both the *Journal of the Ontario Dental Association* and the *New York State Dental Journal,* this strictly personal subject is discussed[2,3] with courage. The authors agree that immaculate hands and a clean breath are prerequisites of a successful practice.

The relation between cigarette smoking and cancer may be debatable. The relation between cigarette smoking and fetid breath and stained, unsightly and offensive smelling fingers is not. The dentist owes it to himself as well as to his patients to keep his smoking at a minimum.

1. Hill, A. Bradford, and Doll, R. Lung cancer and tobacco. Brit. M. J. No. 4976:1160 May 19, 1956.
2. M. C., and J. T. Cleanliness in the dental office. J. Ontario D.A. 33:19 April 1956.
3. Bodecker, Charles F. Establishing good professional relations. New York D.J. 22:175 April 1956.

Michigan Department of Health restores dentistry to divisional status

Public health dentistry received a new impetus last month when Albert E. Heustes, M.D., Michigan's Commissioner of Health, announced[1] that the Michigan State Department of Health had restored its dental unit from a third to a second administrative level—which it had occupied for a third of a century prior to 1949.

THE JOURNAL hastens to be among the first to commend Commissioner Heustes for his enlightened action just as it was among the first to criticize when Michigan, seven years ago, substituted a Section of Public Health Dentistry for its long-established Bureau of Dental Hygiene.

At that time THE JOURNAL[2] expressed concern that such a backward step might lead to a situation wherein the formulation of policies and the administration of public dental health activities in Michigan would be the responsibility of an executive unversed in the problems of dentistry. "Assuredly," THE JOURNAL stated, "such an arrangement is not in the best interest of the public."

Apparently the Michigan Department of Health, after seven years of trial and error, has come to the same conclusion and desires to avert such a calamity.

Dr. Heustes, in announcing the improvement in the administrative status of his Department's dental unit, states it to be his belief that the "adjustment will enable the Michigan Department of Health and the Michigan State Dental Association to make even greater progress in the improvement of the dental health of the people of Michigan."

This assurance on the part of the Commissioner, the demonstrated interest of the Michigan State Dental Association in public health affairs, and the re-establishment of the state dental unit to its former administrative level, promises a rapid rise in the standards of dental health in Michigan.

1. Michigan State Dental Association News Letter, July 2, 1956.
2. Status of public health dentistry seriously impaired by changes in Michigan Health Department. Editorial. J.A.D.A. 39:203 Aug. 1949.

Preparation of scientific manuscripts

Forty-seven editors and associates representing thirty dental society journals attended the fifth annual Conference on Dental Journalism, July 6 and 7 in the Central Office of the Association, Chicago. As customary, the two-day program was devoted to discussions of various problems confronting dental editors, with suggestions for their solutions—problems of design, typography, photography, contents, editing and finance.

One of the major subjects discussed—one of interest not only to dental editors but to dental writers—dealt with the preparation of scientific manuscripts. Out of the formal and informal discussions came a number of suggestions which crystallized into the following formula:

1. Manuscripts should be typed, double spaced, on one side of 8½ by 11 inch bond paper, allowing one inch margins at each edge.
2. The title should appear at the top of the first page, followed by the name and degrees of the author or authors, and the name of the city in which they practice. The street address of the principal author should appear at the end of the article.
3. The name of the group before which the paper was delivered, the date and place of delivery, and the author's university, hospital or government affiliation, if any, should appear in a footnote.
4. Generic names, instead of proprietary or trade names of drugs, products and appliances, should be used wherever possible and the spelling of such names and of all proper names should be verified.
5. If material is quoted, permission should be secured by the writer from both the author and the publisher as required by copyright laws. Quoted material should be quoted exactly except that obvious typographic errors should be corrected.
6. Manuscripts presented for publication should: (a) present new facts, describe new technics or methods of practice, or re-evaluate established principles; (b) contain the results of original research, or (c) provide a review of the facts concerning a particular subject so that the reader may deduce therefrom legitimate, important conclusions.
7. Data presented in charts and tables should be discussed but not repeated in the text.
8. A concise summary and a precise conclusion add to the value of a scientific article. The summary should state briefly the purpose of the article and the main facts presented. The conclusions should consist of deductions based on the data presented or reviewed. The busy reader appreciates a good summary and conclusion, as they help him determine whether he wishes to read the entire article.
9. Bibliographic references should be in numerical sequence and correspond to the numbers placed in the text where they are mentioned.
10. An article that has been published previously under the same or a different title, or one that contains extensive excerpts from a previously published paper or book, should not be submitted for publication.

These are but a few of the basic rules governing the preparation of dental manuscripts. There are many more of equal importance. Editors participating in the recent Conference on Dental Journalism agreed, however, that if dental writers would observe these suggestions, the work of dental editors would be substantially lightened and the quality of dental journals substantially improved.

Washington News Letter

A special investigation by Congress of this country's supply of physicians and dentists is in prospect. It will be started before January 1957, if the House Interstate and Foreign Commerce Committee carries out its intentions.

During the past several months, this Congressional group has been grappling with legislation—much of it highly controversial—whose objective is to increase the output of graduates in the health sciences by subsidizing their training. Although the committee took decisive action on some of these bills, it felt that a comprehensive study of health manpower as a whole should be undertaken before government penetrates further into the field of professional education.

A few weeks ago the committee, whose chairman is Rep. J. Percy Priest (D., Tenn.), reported favorably on a bill which authorizes traineeship grants to stimulate postgraduate education of public health workers and nurses and the training of more practical nurses. In its detailed report, the committee stated:

"The committee feels that basic and comprehensive changes are needed in the programs designed to increase the supply of health personnel and health facilities and to improve the method by which health services are rendered, if services of high quality are to be available more generally to our people at a cost which they can afford to pay.

"The committee feels that in the course of its hearings on major diseases of mankind, held during the 83rd Congress (1953-54), and the hearings on the safety of the Salk poliomyelitis vaccine, held during the 84th Congress, it has developed a technique of panel discussions which enables the committee to cope with highly controversial and technical problems. The committee is under no illusion that easy answers will be readily available to the questions with which it must deal in connection with shortages of health personnel and health facilities, and the costs and methods of providing health services.

"However, the committee believes that, by using the panel discussion method, it may be able to clarify the issues sufficiently so that appropriate legislation may be developed. This . . . the Subcommittee on Health and Science hopes to do at the earliest possible date."

The majority of the committee's members are convinced there are shortages all along the line—physicians, dentists, nurses, therapists and auxiliaries. What they aim to find out is how far, and in what direction, the federal government can and should go toward alleviating those shortages.

QUESTIONS TO BE ANSWERED

Is it feasible to provide government grants to help finance construction at professional schools? Should federal aid go a big step further and include aid for maintenance of those schools? What about government scholarships for medical, dental and nursing students? How shall recipients of assistance from Washington be safeguarded against any central control over administrative policies, curriculum or selection of students?

These are but a few of the questions which Rep. Priest and his Democratic and Republican colleagues want answered.

"The subcommittee (also headed by Rep. Priest) and the full committee are acutely aware of the fact that existing shortages of health personnel in all categories, as well as shortages in many classes of health facilities, profoundly affect the

quantity, quality, methods and costs of health services rendered to our people in this country," the House of Representatives was informed by its principal committee on national health legislation.

But whether Washington should confine its participation to support of research and hospital construction, or take a more militant role through such measures as operational subsidies, scholarships and other types of incentive—that is where opinion is divided on Capitol Hill, not only within the Priest committee but among members of the House and Senate generally.

Within recent years various governmental studies have been conducted on the subject of this country's health manpower. It was explored by the Truman-Magnuson commission of 1952. The Health Resources Advisory Committee has considered the question and so has the Hoover Commission. Certain phases have been investigated by the Department of Labor and the Department of Commerce.

Practically all of these studies, it will be noted, have been made by agencies of the government's executive branch. Until now, Congress has not entered the picture. Thus the Priest committee's decision to rectify that omission lends additional importance to its forthcoming inquiry.

In mid-July, only a few weeks before the scheduled adjournment of Congress, health legislation was still being introduced. The Eisenhower Administration held little hope that its plan to permit health insurance underwriters to pool risks would be enacted. Another new bill, originating in the State Department, would increase health care benefits of overseas employees.

Other probable carry-overs into 1957 are legislative proposals for tax-deferred pension plans for dentists and other self-employed professional people; government-paid health insurance for federal employees, and—unless it is passed in closing days of present session—the bill creating a National Library of Medicine.

International Correspondence

NEWS FROM GREAT BRITAIN

Sir Wilfred Fish, C.B.E., chairman, in his address at the opening of the 70th and last session of the Dental Board (the new General Dental Council came into being July 4) reviewed the work of the Board since 1921. Its work encompassed the establishment of a closed profession, a central authority and machinery to enforce discipline; the establishment of an academic cadre and systematization of teaching in the schools, with the dental curriculum becoming highly disciplined within the universities; the awarding of building and equipment grants, and the provision of financial aid to more than one quarter of all the United Kingdom graduates and licentiates whose names were added to the register between 1921 and 1939.

A postgraduate bureau was set up after the last war, and a postgraduate institute was established at the Eastman Clinic under the auspices of the British Post Graduate Medical Federation. Dental health education has been constantly pursued, and dental research has been encouraged, though both these efforts have been hampered by lack of funds.

Sir Wilfred suggested that the ultimate need of dentistry is for a National Institute of Dental Research whose work would be related to that of other departments of biological investigation.

Some figures were given relating to the dental register. During the years the Dental Board has exercised control, the number of diplomates and graduates has grown from 4,768 to 12,521. The dentists' register for 1956 has 15,895 names in it.

Sir Wilfred acknowledged the debt the Dental Board owed to the General Medical Council which for 35 years has supervised the disciplinary functions and finances of the Board as well as performing other duties in connection with the dental profession that are now to be assumed by the new General Dental Council.

BRITISH DENTAL ASSOCIATION

At the successful annual conference of tl Association held in Brighton June 25-29 the following special business was transacted at the annual general meeting of the members.

His Royal Highness, the Duke of Edinburgh, K.G., K.T., was elected an honorary member of the Association.

The annual conference for 1957 will be held in Newcastle Upon Tyne.

Mr. Harry Davis of Newcastle was chosen president-elect.

At an extraordinary general meeting of members, the Bylaws of the Association were altered so that a standing dental health committee was brought into being, in place of an advisory research committee.

The Parliamentary Secretary to the Ministry of Health, Miss Hornsby Smith, was asked a number of questions recently regarding economies which might be made in the National Health Service in order to achieve the saving of 100 million pounds in government expenditure which the Chancellor had promised in the budget. Mr. Baird, the only dental surgeon in Parliament, opposed any such economies in the General Dental Service, especially the imposition of charges on the patient. He stressed the shortage of manpower as a problem in dental service and suggested that if more dentists were to be trained then the Ministry and Treasury must be willing to spend more on building new and converting old dental schools.

There was not a single dental school in Wales, and schools were needed in Aberdeen, Oxford and Cambridge, he pointed out. There was also a need for more liberal grants to parents who under existing income limits were not eligible for financial aid towards the cost of educating their children in a profession.

THE DENTAL GUILD

The representative board of the British Dental Association on April 28 adopted by 52 votes to 28 the following resolution: "That the Representative Board are of the opinion that the formation of a dental guild constitutionally independent of, and separate from, the British Dental Association is desirable."

The British Dental Association is a company registered under the Companies Act, and like all companies its powers are defined and restricted by its memorandum of association. One of the restrictions contained in the Association's memorandum forbids it to organize among its members any sort of restrictive practice; this would effectively prevent the Association from instigating a withdrawal or a limitation by its members of their professional services.

It would have been legally possible to amend the Association's memorandum at a general meeting of members so as to remove the prohibition upon the organization of restrictive practices; but the Association was advised that such a change in the memorandum might well lead to the withdrawal of royal patronage and to the necessity for the Association to be known henceforward as the British Dental Association, Limited.

Apart from these real disadvantages, there are many members who are opposed to the idea of virtually labeling the Association as a trade union and little else. The Association has always been active in problems of dental health, and it has time and again identified itself in this field with the interests of the public as a whole rather than with those of the profession alone. The influence for the public good which the Association has been able to exercise in this way would undoubtedly be undermined by a concentration upon the narrow functions of a trade union.

It is to be sincerely hoped that the profession will never be forced to such desperate remedies as an organized withdrawal from the National Health Service. No one can say with certainty, however, that the profession will at no time be subjected to such extreme provocation and injustice that it will be driven to seek more than reasoned argument and skilled negotiation can win for it. It is the duty of the leaders of the profession to plan for the future.

Sixteen leading members of the profession selected from the conference of local dental committees and from the general dental services committee are now taking steps to complete a trust deed establishing a dental guild, and they will have the task of setting up the machinery for it.

The British dental profession was delighted and proud to find three colleagues mentioned in the recent Queen's Birthday Honour list; namely, Surgeon Rear Admiral L. B. Osborne, Air Vice Marshal M. S. Piggott and Prof. F. C. Wilkinson.

Prof. A. B. Macgregor has written an article in the *Family Doctor* for June called "Blarney About Toothpastes." The text reveals the foolishness of the claims of some manufacturing companies and includes the warnings issued by the British Dental Association and the American Dental Association.

Mr. MacMillan, Chancellor of the Exchequer, in his first budget, accepted in a simplified and modified way the recommendation made on relief to the self-employed with respect to provision for retirement. This decision will at long last do justice to professional and self-employed persons who hitherto have been unable to provide themselves with pensions. The decision is of importance to those members of the dental profession in Great Britain who are in private practice.

The 62nd annual meeting of the American Dental Society of Europe was held at the Royal College of Surgeons in London July 10-13. This was a most successful meeting characterized as usual by a high standard of lectures and clinics provided for the most part by visiting colleagues from the United States. This meeting is an annual high light to those graduates with a United States degree practicing in Europe, who make up the membership of the Society, and it is the generous support given by the essayists and clinicians from the States who come over at their own expense that maintains the traditions of this active and worth-while Society.

G. H. Leatherman,
D.M.D., F.D.S., R.C.S., F.A.C.D.

Legislation

DENTAL RESEARCH GIVEN MAJOR AID BY 84TH CONGRESS

Two major pieces of legislation to boost dental research were signed into law and one more was slated for enactment in mid-July as Congress worked overtime and Saturdays to finish the nation's legislative business before scheduled adjournment that month.

Signed July 29 by President Eisenhower was Public Law 635, 84th Congress, containing the record six million dollar appropriation for the National Institute of Dental Research, passed by overwhelming voice vote in the House of Representatives June 27 after its unanimous approval in the Senate.

July 19, the President signed S. 3246, a measure authorizing four million dollars for construction of a building for the National Institute of Dental Research. The bill was passed July 13 in the House and the $4,000,000 amount agreed to July 17 in the Senate.

The third measure, in conference committee at mid-month, provides 90 million dollars in grants on a matching basis over three years to nonprofit institutions such as dental and medical schools to defray the cost of constructing and equipping research facilities. Passage before adjournment was certain.

All three measures were vigorously supported by the American Dental Association, and their enactment into law brings to a successful conclusion the Association's campaign to procure from the 84th Congress significant government support for dental research.

Research Budget • The $6,026,000 budget approved for the National Institute of Dental Research includes $3,715,000 for research grants to schools and other nongovernmental agencies. The NIDR appropriation is included in the budget of the Department of Health, Education and Welfare for the fiscal year which began July 1. It is the full amount requested by the Association in testimony before both houses of Congress.

The NIDR budget is more than double the amount approved by the Bureau of the Budget. It is considerably larger than the amount first approved by the House of Representatives and is nearly three times last year's appropriation.

During the campaign for enactment of the measure, virtually every state and local dental society and associated dental group urged Congress to approve increased funds. In addition, thousands of telegrams and letters were sent by individual dentists across the nation.

Following passage of the measure by Congress, Association officials commended the lawmakers for their action. Bernerd C. Kingsbury, Association president, hailed the move as a "realistic approach" to the problem of dental disease. Harold Hillenbrand, Association secretary, described the action as "one of the most significant steps in the history of dental research in the nation."

During presentation to the Senate of the conference committee's report on the budget for the Institutes of Health, Senator Lister Hill, a prime mover in the campaign for additional research funds, specifically mentioned the importance of dental research. He pointed to the discovery through research of the value of fluoridation and stated that the U.S. Public Health Service has an obligation to continue fluoridation research and to provide advice, when requested, to state

and local health agencies in the application of the health measure.

"There are those who dispute the facts, or who, for a number of reasons, reject fluoridation of water supplies," the Senator said. "However, the decision should be based on knowledge rather than on misinformation and misunderstanding."

NIDR Building • Approval by Congress of four million dollars for a building for the National Institute of Dental Research also was a major goal of the Association. In its Congressional testimony, organized dentistry pointed out that an effective research program was hampered by lack of adequate space at the research institute.

Appropriation of funds to begin construction may be obtained before Congress adjourns.

O.A.S.I. • Clearing final hurdles before enactment is the Old Age and Survivors' Insurance program. The controversial measure, which for the first time adds dentists to the list of covered self-employed persons, passed the Senate July 18, after a bitter fight over liberalizing amendments.

The disputed provisions, payment of retirement benefits to totally disabled men and women at age 50 and to women at the age of 62, deleted by the Senate Finance Committee, were written back into the bill by the Senate before it sent the measure to a conference committee. The House had approved a similar version last year.

Other Measures • A Senate-passed bill to establish a National Library of Medicine under U.S. Public Health Service supervision is likely to be a victim of the last minute rush to adjournment.

Keogh-Jenkins • Early in July, the Association Council on Legislation, urged the Ways and Means Committee of the House of Representatives to consider favorably the Keogh-Jenkins bill (H.R. 10). The measure would permit dentists and other self-employed professional persons to establish their own retirement income plans by placing a limited portion of their income annually into a tax-deferred retirement fund.

In a letter to the committee, Paul E. Jones, Council chairman, noted that the committee is considering measures to allow railroad employees to exclude from taxable income the amounts contributed yearly toward retirement pensions.

"The tax inequity presently contained in the Internal Revenue Code in the area of pension or retirement plans which favors the corporate employee over the self-employed individual cannot be justified under any acceptable tax philosophy," Dr. Jones said.

A counterpart of the Keogh-Jenkins bill was approved by the British House of Commons June 22. Self-employed persons, including dentists, may set aside ten per cent of earned income annually, with a limit of about $2,100. Persons 40 or over may deduct a larger amount.

BIGGER ROLE FOR FCDA URGED BY ASSOCIATION

Greater authority and increased financial support for the Federal Civil Defense Administration was urged by the American Dental Association in testimony filed with a House of Representatives subcommittee June 21.

The statement, signed by J. Claude Earnest, vice-chairman of the Council on Legislation, told a subcommittee of the House Committee on Government Operations that the lack of a "central source of authority to plan, direct and coordinate all efforts" in the civil defense program had meant failure to utilize effectively available professional skills for mass casualty care.

"Under the present scheme," Dr. Earnest asserted, "authority is dispersed to units which cannot effectively discharge it, while the federal government,

which could direct such an operation, is relegated mainly to an advisory position."

Dr. Earnest proposed that a national civil defense program developed by a strengthened FCDA be closely related to the plans of the military for defense.

Association Affairs

ASSOCIATION MEMBERSHIP TOPS 85,000 FOR FIRST TIME

Membership in the American Dental Association passed the 85,000 mark June 30 for the first time in history, making more than eight out of ten practicing dentists members of the Association. The 85,660 total was 809 above the year-end figure for 1955 and 2,500 above June 30 of last year.

The active and life membership category reached 75,716, an increase of 2,426 over the same date a year ago; student membership was 9,725, up 111. Membership in other categories was: affiliate, 188; associate, 16, and honorary, 15.

THREE APPOINTMENTS MADE TO CENTRAL OFFICE STAFF

The appointment of George Y. Ogawa, Henry Koehler and Thomas Ahern to the Central Office staff has been announced by Harold Hillenbrand, Association secretary.

Mr. Ogawa has been appointed as a statistician for the Bureau of Economic Research and Statistics. A native of Spokane, Washington, he did his undergraduate work at Roosevelt University in Chicago and received a Master's degree in economics from the University of Chicago in 1954. Prior to joining the Association's staff, Mr. Ogawa was a statistician for the Industrial Relations Center of the University of Chicago.

Mr. Koehler, a chemist, appointed to the staff of the Council on Dental Therapeutics, will be concerned with the testing of dental drugs and materials. He served previously as a teaching assistant in chemistry at Roosevelt University and prior to his teaching post was a research assistant in the department of biochemistry, Northwestern University Medical School, and senior chemist with the South District Filtration plant of the Chicago Bureau of Water.

Mr. Ahern succeeds Mr. Peter Goulding as a staff writer for the Bureau of Public Information. Mr. Goulding previously had been appointed secretary for the Council on Scientific Session. Mr. Ahern was graduated from De Paul University in Chicago in June 1956.

RELIEF FUND NEARLY $15,000 OVER THE TOP AS DRIVE ENDS

The 1955-56 Relief Fund campaign came to its close June 30 with contributions reaching $114,961, a new all-time record. It was the fourth consecutive year that the drive surpassed the $100,000 goal set by the Council on Relief. The current total passed last year's record by $3,688.

In all, 44 constituent societies and the U.S. Public Health Service exceeded their quotas. Leader in per capita contributions was Alaska, also a high contributor in last year's drive. The Alaska society contributed $399, nearly eight times its quota. In second place, percentagewise, was Tennessee, which placed first in the 1954-55 campaign. Tennessee contributed $5,047.50, 371.1 per cent of quota.

Four other societies doubled their quotas. They were: Arizona, 214.7 per cent; Southern California, 205.8 per cent; Nevada, 205.0 per cent, and Alabama, 202.9 per cent.

New York took first spot again this year in dollar volume. It contributed $12,911, which was 86 per cent of quota. Southern California and Illinois also repeated last year's performance, taking second and third place, with contribu-

tions of $9,715.50 (205.8 per cent) and $8,311.50 (116.7 per cent) respectively.

The smaller societies contributed 127.3 per cent of quota; the larger ones, 112.3 per cent. Students contributed $709.22.

PHYSICIAN'S DREAM HELPED MAKE ATLANTIC CITY RESORT

Atlantic City, N. J., site of the American Dental Association's 97th annual session October 1-4, is famed for its beaches, boardwalk and resort hotels. What is less well known is that the seaside city has been a resort for 100 years and that a physician was prime mover in developing it.

Originally a summer camp ground for the Lenni Lenape Indians of South Jersey, Absecon Beach started on its modern development when its potentialities as a health resort were seen by Jonathan Pitney, a physician in the mainland community of Absecon.

Dr. Pitney suggested the project to a glass manufacturer who wanted a railroad to aid his business. Several other merchants also were interested in the project. The building of the railroad signaled the start of a real estate boom. In 1853, the name "Atlantic City" was chosen for the railroad's terminal point, and in 1854 the railroad ran down the middle of Atlantic Ave., discharging its passengers at the various hotels along the track. In 1870, the first boardwalk, which was folded up and put away at the end of each summer, was built to protect hotel guests from being stranded on the beach by ocean tides.

Today, Atlantic City is a year-round major resort with modern hotels, the world's largest auditorium and convention hall.

The Association's House of Delegates will meet in the auditorium, which will also house the scientific program. Some 38 of the resort's hotels have pledged accommodations to convention visitors.

BOOKLET FOR CHILD PATIENTS FEATURES TV PUPPETS

The popular television characters, Kukla, Fran and Ollie, explain dental care to preschool age children in a new pamphlet published by the American Dental Association's Bureau of Dental Health Education. In a series of photographs and text-captions, the puppets explain the importance of proper toothbrushing, diet and regular dental visits. The pamphlet, entitled *The Kuklapolitans—Even Dragons Have Teeth,* may be obtained from the Order Department at the Central Office at the following prices: 25 copies, $1.15; 50 copies, $1.90; 100 copies, $3.20; 500 copies, $13.75, and 1,000 copies, $25.90.

An additional education aid for children also is available. The four elementary school posters prepared previously by the Bureau of Dental Health Education have now been reproduced in miniature. The brightly colored 3¼ x 4¼ inch cards show smiling youngsters brushing their teeth, visiting the dentist and eating fruits instead of sweets between meals. The elementary school poster miniatures sell in sets of four: 25 sets, $1.15; 50 sets, $2.00; 100 sets, $3.50; 500 sets, $16.25, and 1,000 sets, $28.

DENTISTS AT ANNUAL SESSION WILL NEED MEMBERSHIP CARDS

A reminder to all dentists attending the forthcoming annual session of the American Dental Association to bring their 1956 membership cards to the meeting has been issued by Louis M. Cruttenden, Association assistant secretary. The annual session is October 1-4 in Atlantic City, N.J.

Failure to have a card complicates registration for the meeting, compelling the individual to undergo additional procedures to obtain credentials for admission to the scientific program, Dr. Cruttenden pointed out.

AMERICAN
DENTAL ASSOCIATION
ANNUAL SESSION
ATLANTIC CITY
OCTOBER 1-4

URGE UNIFORM ACCOUNTING PLAN FOR STATE JOURNALS

A proposal that state societies be encouraged to adopt a uniform accounting system for their dental journals was approved by the Council on Journalism at its July 5 meeting in Chicago. The suggestion for a uniform plan was submitted to the Council by John J. Hollister, Association business manager.

A uniform system would give each state dental society complete knowledge of its publication income and expense, would show whether advertising rates were correct and would make possible comparison of publishing operations between societies, Mr. Hollister pointed out.

A second suggestion of the business manager's, that the Council periodically collect and disseminate cost information to constituent dental journals, also was adopted by the Council. The information will be prepared in manual form for distribution to dental editors and constituent society officers.

The Council's recently published "Rate and Data" book, listing advertising rates and other data of state dental publications, already has resulted in increased advertising revenue for some journals, William L. Barnum, Council chairman, reported. The Council will issue supplements to the book to keep the listed information current.

Other actions of the Council included adoption of a resolution pointing up the need for dental schools to teach manuscript writing and the approval of a proposal for a workshop on dental journalism to be held August 1957 in San Diego, Calif., in conjunction with the tenth Pacific Coast Dental Conference. J. C. A. Harding, Council member, will lead the workshop. It was reported that the coming Atlantic City conference on dental journalism would discuss the use of statistics, the use of abstracts and the technics of reproducing colored and black and white photographs.

A two-day conference on dental journalism followed the Council meeting. A record attendance of 47 included editors of 21 state journals, five component publications and four other dental journals.

BRUSH INDUSTRY THANKS A.D.A. FOR AID IN BRISTLE RELEASE

The tooth and toilet brush division of the American Brush Manufacturers Association has issued a formal resolution expressing appreciation to the American Dental Association for its help in getting natural hog bristles released from federal stockpiles for use in toothbrushes. The resolution specifically cited the Council on Dental Trade and Laboratory Relations. Natural hog bristles, formerly on the government's list of strategic materials, were declared nonstrategic late last year.

SUBSCRIPTS • The Board of Trustees meets August 9-11 in the Central Office. . . . John Stanford, a research associate at the American Dental Association's Research Fellowship at the National Bureau of Standards in Washington, D.C., received a Master's degree in the science of dental materials June 11. His thesis was conducted at the Research Fellowship on the compressive strength, modulus of elasticity and elastic limit of human enamel and dentin.

The 97th annual session of the American Dental Association takes place October 1-4 in Atlantic City, N. J. Some of the 38 first-class hotels of this noted resort city which have pledged accommodations may be seen on the facing page, above. At the water's edge is Atlantic City Auditorium (center), where the scientific program and the meetings of the House of Delegates will be held. Visitors to the annual session may stroll along the boardwalk or the city's white sand beaches (below).

Dental Societies

DENTISTS INVITED TO MID-AMERICA JUBILEE

An invitation has been extended to all dentists to attend the Mid-America Jubilee to be held during the entire month of September in St. Louis. The St. Louis Dental Society, which is celebrating its one hundredth anniversary, plans a large exhibit in the exposition. The exposition will cover some 37 acres along the riverfront. D. W. Brock heads the dental society's jubilee committee.

NEW EXECUTIVE SECRETARY NAMED FOR OKLAHOMA SOCIETY

Mr. Doyle J. Moorhead of Oklahoma City has been named executive secretary of the Oklahoma State Dental Association. His appointment was effective June 1. He succeeds Bill Howard, the society's former executive secretary.

Mr. Moorhead is a graduate of Central State College in Edmond, Okla., where he earned both a B.S. and a Master's degree in business administration. Before coming to his post in the state dental society, he taught school, served as secretary to a superintendent of schools and was in charge of the admitting and business office of Wesley Hospital in Oklahoma City.

Hamilton, Bermuda, will be the site of the mid-Atlantic dental conference, sponsored by the Bermuda Dental Association, October 7-10. Here the white rooftops of the pastel-colored buildings of Hamilton harbor reflect the afternoon sun while a ferryboat returns from a town on the opposite shore. In the foreground is the Royal Bermuda Yacht Club, which sponsors yacht races each Thursday. The large building in the left background is Hamilton Hotel, oldest on the island. The tower of Bermuda Cathedral and the towers of Sessions House, seat of Parliament, are center and right. E. W. White and Lee J. Kirkland of 1231 Baltimore Ave., Kansas City, Mo., are conference coordinators.

D. J. Moorhead

He is a former secretary of the Central State College Alumni Association and is active in the Baptist Church and the Masons.

SUBSCRIPTS • The first issue of *Tips for Georgia Dentists,* a newsletter published by the dental health services of the Georgia Department of Public Health and the Georgia State Dental Association, made its appearance July 3. The newsletter will keep Georgia dentists informed of current events in dentistry and dental public health. . . . The Arkansas State Dental Association's thirteenth annual seminar will be held October 28-30 in Hot Springs.

Dental Education

FIRST ANNOUNCEMENT MADE OF FALL GRADUATE COURSES

California • Esthetic considerations in multiple jacket crown and bridge restorations involving periodontal lesions will be the subject of a September 7-9 course offered by the University of California. The course will be taught in San Diego. A general refresher course, covering anatomy, anesthesia, chemistry, dental materials, oral surgery and roentgenology, is offered for eight weeks starting November 19. Further information on both courses may be obtained from the school in Los Angeles.

Iowa • The State University of Iowa College of Dentistry in Iowa City announces a continuation course in dentistry for children September 17-21. The course is designed for the general practitioner. It will deal with the practical psychological management of the child as well as with the technical procedures currently in use. Clinical practice in the children's clinic of the college will augment lectures and seminars.

Minnesota • The University of Minnesota School of Dentistry and Center for Continuation Studies in Minneapolis announces its eleventh annual seminar for the study and practice of oral medicine. Sessions will be held September 28 and 29.

Northwestern • For the second year, Northwestern University Dental School in Chicago is offering an extensive program of short postgraduate courses throughout the academic year. In all, 21 different courses will be taught during the 1956-1957 term. Most of the courses are designed primarily for the general practitioner.

The first course, to be presented October 15-17, is problems of occlusion. Ernest Granger of New York will be guest lecturer. Other members of the faculty will include G. R. Lundquist, Donovan W. Brown, W. George F. Schmidt, Irvin T. Harris and A. H. Grunewald.

Ohio • The College of Dentistry, Ohio State University, in Columbus, has published its schedule of 1956-1957 postgraduate courses. Each course runs for five consecutive days. Courses begin in September and continue through mid-May. On the faculty are Linden F. Edwards, Carl O. Boucher, Frank C. Starr, J. Henry Kaiser, Morgan L. Allison, H. B. G. Robinson, Victor L. Steffel, Lyle S. Pettit and Benjamin H. Williams.

Toronto • Postgraduate courses offered during the 1956-1957 session at the University of Toronto Faculty of Dentistry include: periodontics, October 18 and 19; radiodontics, November 5-9; endodontics, December 3-7; orthodontics for the general practitioner, March 11-15, 1957, and dental oral surgery and anesthesia, April 29 to May 3, 1957. Enrollment in all courses is limited.

Tufts • Two participation courses in periodontology have been announced by Tufts University School of Dental Medicine in Boston. The first is scheduled for October 8-12; the second, April 8-12, 1957. The content of both courses is the same. They are under the direction of Irving Glickman. Additionally, the school offers a course in crown and bridge

prosthesis for the general practitioner, September 17-21, and general anesthesia for oral surgeons, Wednesdays, January 9 to February 27, 1957.

Washington • "The Fabrication of Functional Esthetic Dentures" is the title of a course offered September 5-8 by the University of Washington School of Dentistry in Seattle. Earl Pound, a faculty member of the postgraduate divisions of the University of Southern California School of Dentistry and the University of California, will teach. The course will cover the practical phases of esthetic and phonetic positioning of teeth and methods of transferring old dentures into the new position. Basic anatomy of the dental arches as related to the teeth will be reviewed. Three simple methods of fabricating and tinting dentures will be taught. Laboratory participation by students is included.

NORTHWESTERN CITES DENTAL ALUMNUS, SAU YEE CHANG

Northwestern University has conferred a merit award for distinction in community service on Sau Yee Chang of Lihue, Kauai, Hawaii. Dr. Chang, a 1918 graduate of the Northwestern Dental School, was among 22 alumni honored June 16 at the university's annual alumni weekend in Evanston, Ill. Dr. Chang has been a member of the American Dental Association's House of Delegates for many years and is well known on the mainland. In Hawaii he has served as a member of the territorial board of dental examiners. He has held many posts with the Republican Party in Hawaii.

CONSTRUCTION BEGINS ON DENTAL WING AT MARQUETTE

Construction has begun on the new $766,000 dental wing of the School of Dentistry, Marquette University, in Milwaukee. The four story building, scheduled for completion in time for the 1957 fall semester, will join the present dental school building to the Carey memorial medical-dental library.

The new facilities will make possible expansion in the graduate program in oral surgery, although no expansion of the undergraduate program is planned. The school admits 115 students annually.

Included in the structure will be pathology, bacteriology and histology laboratories, a laboratory for use of graduate students and facilities for dental hygienists. One floor will be for the study of pedodontics. New emphasis will

Expansion of the facilities of the School of Dentistry, Marquette University, in Milwaukee, has been announced by the school. New construction (center section) will join the dental school (left) to the new medical-dental library (right).

be placed on this field, according to O. M. Dresen, dean of the dental school.

Funds for the building were provided from Marquette's recent 75th anniversary campaign, in addition to a $92,000 grant provided under the Hill-Burton Act.

RESEARCH POSITION OPEN AT CALIFORNIA SCHOOL

A full-time appointment as a junior research biologist is available at the School of Dentistry, University of California, in San Francisco. The appointment begins in September or October of this year. It is designed to help prepare the candidate for a career in dental teaching and research. Persons with a D.D.S. degree or equivalent are eligible to apply. The calendar year salary is $5,232.

Applications may be addressed to Hermann Becks, division of oral biology, at the school, University of California Medical Center, San Francisco.

W. H. BAUER, DIRECTOR OF PATHOLOGY AT ST. LOUIS, DIES

William H. Bauer, M.D., D.D.S., professor and chairman of the department of pathology and research at St. Louis University School of Dentistry, died June 14 in St. Louis. He was 69 years old.

Dr. Bauer was born in Prague, then part of the Austrian Empire. He received his medical degree at St. Charles University of Prague in 1912. Dr. Bauer came to the United States in 1938, leaving the University of Innsbruck, Austria, where he was professor of pathology. He received his D.D.S. degree from St. Louis University School of Dentistry in 1942.

Dr. Bauer served as coordinator of the dental school's cancer control program. He also directed a research project, financed by the U. S. Public Health Service, on the growth of tooth-forming tissues. Surviving are his wife, a son and two daughters.

JOHN OSBORNE, BRITISH RESEARCHER, TO TEACH HERE

John Osborne, professor of prosthetics at the University of Birmingham, England, has been named visiting professor of dental materials at Northwestern University dental school, Dean George W. Teuscher announced in July. Dr. Osborne will arrive in September to begin a one year term of research and teaching.

He will investigate how the movements of the jaw affect the comfort and efficiency of dentures and will work with Eugene W. Skinner, professor of physics at the dental school, on a study to evaluate and design new dental burs.

Dr. Osborne is a pioneer in the field of dental materials. He has written a number of books for students on dental materials, on acrylic resins in dentistry and partial dentures. He is a Fellow of the Royal College of Surgeons of England.

SUBSCRIPTS • The W. K. Kellogg Foundation is sponsoring a conference in dental education July 16 to August 3 in Ann Arbor, Mich. Purpose of the conference is to detail inservice methods for teacher training, through such technics as interdepartmental cooperation and faculty meetings. The Foundation, a major contributor to dental projects, also held a three day meeting June 21-23 of its advisory committees, including its dental advisory committee, to discuss the meaning of population trends for the future work of the Foundation.

Public Health

CLEVELAND FLUORIDATION PROGRAM SERVES 1,200,000

Residents of the city of Cleveland and those of 60 suburbs began drinking fluoridated water July 2, more than five years

after the public health measure has been approved by the Cleveland City Council. The project serves 1,200,000 people living in a 500 square mile area.

Mr. Frank J. Schwemler, city water commissioner, said initiation of the program went off without a hitch and that no complaints had been recorded at City Hall in the first few hours of operation. In view of the experience of other cities, however, 39 telephone lines had been set up at City Hall to receive complaints expected from the 600 members of the Greater Cleveland League Against Artificial Fluoridation. The League's efforts to halt the program had been stopped previously by the courts of Ohio and, finally, by the U. S. Supreme Court in May.

Late in June, Santa Fe, capital of New Mexico, announced its fluoridation program. It was the second city in the state to adopt the health measure. The first city, Raton, inaugurated its program early in April. David F. Striffler, state dental director, estimates that because much of the state's water contains natural fluorides, 50 per cent of New Mexico's population now drink fluoridated water.

With the addition of the New Mexico cities and Cleveland, the number of communities receiving fluoridated water has reached 1,232, serving a total population of 25,563,927.

HARRY MILLHOFF RETIRES AS OHIO DENTAL DIRECTOR

Harry B. Millhoff, chief of the dental division of the Ohio Department of Health, retired August 1. A successor has not yet been named.

Dr. Millhoff had served as dental director since 1940. During his tenure, a number of work conferences were conducted with the Ohio State Dental Association, the first of which, "Community Dental Health Planning," was held in 1946. It is said to be the first conference of its kind. In addition, the dental division organized and financed a pedodontics program to give senior dental students experience in pedodontics and to provide needed health care for indigent children.

Considered the dental division's most outstanding accomplishment was the publication of a *Dental Health Guide for Teachers*, which is now in its second edition and is being used throughout Ohio and other states.

DENTISTRY REGAINS DIVISION TITLE IN HEALTH DEPARTMENT

Dentistry has regained division status in the Michigan State Department of Health, according to a report in the July 2 issue of the state dental association's *News Letter*. Division status, which became effective July 1, had been sought for the health department's dental section by the state society for several years.

The establishment of the division of public health dentistry returns to dentistry the position taken away from it in 1949, when it was made part of the division of local health administration. Head of the new division is state dental director Fred Wertheimer.

LEONARD SCHEELE RESIGNS SURGEON GENERAL'S POST

Leonard A. Scheele, M.D., Surgeon General of the U. S. Public Health Service, resigned August 1 to become president of Warner-Chilcott Laboratories, a pharmaceutical firm. Dr. Scheele had been appointed for his third four year term as Surgeon General last April. Requesting leave to resign, he wrote President Eisenhower that he wished to provide more properly for his family. No successor has been named.

During Dr. Scheele's tenure as Surgeon General, the medical research program of the USPHS expanded considerably. Four new research institutes were added

—the National Institute for Dental Research, the institutes for research in heart disease, arthritis and metabolic diseases, neurological diseases and blindness. In addition, appropriations for the institutes of health increased from a few million dollars to the record-breaking 170 million just approved by Congress. Dr. Scheele spent a total of 23 years in the public health field.

International

INDIAN GOVERNMENT SETS UP DENTAL RESEARCH COMMITTEE

A dental research advisory committee to the Indian Council of Medical Research has been established by the government of India. Col. N. N. Bery, vice-president of the Dental Council of India, has been appointed chairman of the committee.

Other members are the heads of the dental schools in India. They are: T. N. Chawla, Dental College and Hospital, King George's Medical College; V. M. Desai, Nair Hospital Dental College; K. L. Shourie, C.E.M. Dental College and Hospital; J. C. Manchanda, Amritsar Dental College and Hospital; M. G. Rao, Madras Dental College, and U. S. Malik, Calcutta Dental College and Hospital.

ALBERT JOACHIM RE-ELECTED TO HEAD WORLD DENTISTRY

Albert Joachim of Brussels, Belgium, was re-elected president of the Fédération Dentaire Internationale at its 44th annual meeting May 28 to June 3 in Zurich. Dental societies of 20 countries were represented. Dr. Joachim took office the first time last year, succeeding Oren A. Oliver of Nashville, Tenn.

Re-elected vice-presidents were LeRoy M. Ennis of Philadelphia, a former president of the American Dental Association; Obed H. Moen of Watertown, Wis., former Association trustee and presently F.D.I. treasurer for the United States; J. Deliberos of Paris, and L. Benedetti of Milan. Erich Muller of Hamburg was named a new vice-president.

Chosen for the F.D.I. Council was W. Stewart Ross of London. G. H. Leatherman of London was re-elected secretary general; W. Riis Klausen of Copenhagen became assistant secretary; H. H. Stones of Liverpool, editor; J. Stork of Aerdenhout, Holland, treasurer, and Miss Dorothy Parrott of London, was named assistant treasurer.

A new committee for the revision of the F.D.I. bylaws was named with Harold Hillenbrand, Association secretary, as chairman. Dr. Hillenbrand, who is one of the six honorary vice-presidents of the world dental organization, was re-elected to a three year term as a member of the finance committee. Others named to the bylaws committee were Knut Gard of Oslo and Hans Freihofer of Zurich.

The dental societies of Austria and Romania were approved for membership. The F.D.I. will sponsor an International Dental Congress in Rome in 1957. The 1958 meeting will be held in Brussels and the 1959 meeting in New York in conjunction with the centennial meeting of the American Dental Association.

MEXICAN ORAL SURGEONS ORGANIZE ASSOCIATION

The foundation of the Mexican Association of Oral Surgery was announced June 20 by Manuel Millan of Mexico City, secretary. The board of directors is: Yury Kuttler, president; Manuel Millan, secretary, and Marcelino Lara, treasurer. The Association is sponsoring a postgraduate course on oral and maxillofacial surgery December 9-15.

Alfred Gysi

ALFRED GYSI, INVENTOR, TO BE 91 THIS MONTH

Prof. Alfred Gysi of Zurich, Switzerland, known internationally for his basic studies in articulation and for the introduction of an anatomical articulator called the "adaptable" articulator, will be 91 years old this month. Dr. Gysi is considered to be one of the men who has contributed the most to the study of the movements of the mandible for prosthetics.

His articulator is among the few on which it is possible to represent the many movements of the mandible which must be considered for prosthetics.

K. M. JOHNSON ELECTED CANADIAN SOCIETY PRESIDENT

K. M. Johnson of Winnipeg was elected president of the Canadian Dental Association at its annual meeting June 3-6 in Banff. Dr. Johnson has been active in the affairs of organized dentistry, serving previously as president of the Winnipeg Dental Society, the Manitoba Dental Association and the Western Canada Dental Society. A. G. Racey of Montreal was chosen president-elect.

Among actions taken by the Canadian association were the establishment of a new section, dentistry for children, and adoption of a statement reaffirming approval of fluoridation. The promotion of a dental health week in each province was recommended, and the publication of a brochure, *Dental Hygiene as a Career for Women*, was approved.

PRAGUE CONGRESSES TO COVER PLASTIC AND ORAL SURGERY

Oral surgery, cancer of the mouth and jaws, cleft lip and palate and surgical reconstruction of the face are the topics

Rajkumari Amrit Kaur, Minister of Health, Republic of India (seated), visits Harvard University School of Dental Medicine, as part of a tour of U. S. health and educational institutions. She told her hosts that a dental college is to be organized at New Delhi. With her are (l. to r.): John Albright, research associate in oral pathology; Om Gupta, research fellow; Miss Yamuna Gaitonde, Indian exchange student in nursing; Mr. George Pettingill, laboratory technician, and Omvati Gupta, medical intern.

of two meetings to be held in Prague this fall. September 27-29, an international symposium of plastic surgery is scheduled. October 3-5, a joint congress has been called by the Stomatological Section of the Czechoslovakian J. E. Purkyne Medical Society and the Czechoslovakian Ministry of Health. Information on both meetings may be obtained from Dr. Vladislav Borovansky, Londynska ul. 37, Prague 12.

MUNICH DENTAL EXHIBIT TO BE HELD THIS MONTH

The thirteenth German dental exhibition, to be held August 20-26 in Munich, will attract exhibitors from many countries, according to Frank L. William Ehlert, foreign press correspondent for the exhibition. Exhibitors from the United States, England, Switzerland and France are among participants. The event is sponsored by the Association of German Dental Industries of Frankfurt-Main in cooperation with several German dental associations.

SUBSCRIPTS • A mobile dental clinic has been given by the West German Federal Government to the government of India. The Clinomobile, especially equipped for Indian needs and climate, arrived in Bombay in March. . . . Kurt H. Thoma, professor emeritus of oral surgery and oral pathology at Harvard, was honored by the medical faculty of the University of Zurich during the recent Swiss Dental Congress. He was awarded an honorary degree "in recognition of his distinguished services in the advancement of pathology and surgery." . . . The third annual meeting of the Sociedad Dental de Guatemala will be held in Guatemala City August 14-19.

Research

MARKETING OF DENTIFRICES CANCELS FLUORIDE STUDY

The test marketing of fluoride dentifrices in Rochester, N. Y., has caused the cancellation of a study on caries prevention technics being carried on by the Eastman Dental Dispensary. The study had been under way for two years. The third year was to have been the study's "critical" year, according to Basil G. Bibby, dispensary director.

Under examination were two topical fluoride procedures. The dispensary had been painting the teeth of some 650 school children to check the effectiveness of varying methods of fluoride application.

Early in 1955, three fluoride dentifrices were marketed in Rochester. Two of the manufacturers mailed the dentifrices to every household. "Obviously, at this point we no longer had a pure test of the effect of our topical treatments," Dr. Bibby stated. "The results, of course, were indecisive since the planned period had not elapsed and fluoride dentifrices had been used by many of the school children for a number of months prior to the last examination."

COLGATE RESEARCH DIVISION ESTABLISHED AT RUTGERS

A division of dental medicine was formally established at Rutgers University June 20 by the Colgate-Palmolive Co. The school in New Brunswick, N. J., will be the site of laboratories for dental research. John W. Hein, former chairman of the department of dentistry and dental research at the University of Rochester, directs the new division. On the staff are Dimitri A. Afonsky, D.D.S.; Josse-Emile J. L. DeWever, D.D.S.; Joel Wisotzky,

D.D.S.; Harry W. Gordon, Ph.D.; Joseph F. Migliarese, Ph.D.; Alice J. Wei, and Hans J. Marcussen, Jr.

L. T. AUSTIN, MAYO CLINIC DENTAL DIRECTOR, RETIRES

Louie T. Austin, head of the Section of Dentistry at the Mayo Clinic, retired from active practice July 1, after 37 years of service at the Clinic. Dr. Austin had directed the dentistry section since 1938.

Dr. Austin did early research on the theory of focal infection. Later investigations concerned the use of intratracheal anesthesia in dentistry, the interpretation of dental roentgenograms in diagnosis, the use of sulfonamide compounds, the effect of diets on the teeth and the condition of the teeth and jaws in the presence of systemic diseases. Dr. Austin is coauthor with John B. Erich of *Traumatic Injuries of the Bones of the Face: An Atlas of Treatment*. He has contributed more than 50 papers to the scientific literature.

In addition to heading the dentistry section at the Mayo Clinic, Dr. Austin taught at the Mayo Foundation Graduate School at the University of Minnesota, achieving the rank of professor in 1949.

He is a Fellow of the American College of Dentists and a diplomate of the American Board of Oral Surgery.

General

KENTUCKY COURT RULES AGAINST ADVERTISING LAB

A recent decision of the Appellate Court of Kentucky holds that a dental laboratory which solicits customers from the general public through its advertising is practicing dentistry without a license. The decision of the Appeals court was rendered in the case of the State Board of Dental Examiners vs. K. W. Steely, a dental laboratory operator. The Kentucky court's decision, while not as sweeping as the recent Illinois Supreme Court decision, is similar to it.

SCHOOL HEALTH ASSOCIATION FORMS DENTAL COMMITTEE

The American School Health Association, whose membership is composed of public health administrators and school health personnel, has established a committee on the dental health program in schools. Purpose of the committee, which is headed by Ross E. Gutman, supervisor of dental health education for the New York State Education Department, is to study the dental problems of the school child.

In announcing formation of the committee, Dr. Gutman stated, "Educators continue to be evermore aware of the significance of sound oral and general health to the child's progress and well-being in school and in adulthood. Its [the committee's] objective is to stimulate cooperation and active participation of all those engaged in school health activities."

Formation of the dental health committee marked the second time in recent months that a national organization concerned with children had undertaken an expanded dental program. In March, the American Association for Health, Physical Education and Recreation established a dental health section under the chairmanship of Miss Eileen Gamble of Evanston, Ill.

WILLIAM GREENHUT TO HEAD ACADEMY OF DENTAL MEDICINE

William M. Greenhut, assistant professor of periodontics and oral medicine at New York University College of Dentistry, was

installed as president of the American Academy of Dental Medicine at the concluding session of the Academy's annual meeting June 22-24 in Detroit. Dr. Greenhut succeeds S. Leonard Rosenthal of Philadelphia.

Taking office with Dr. Greenhut were: Marcel B. Archambault of Montreal, president-elect; D. Chalmers Lyons of Jackson, Mich., vice-president, and George J. Witkin of Yonkers, N. Y., secretary. Other officers are: George Stewart of Philadelphia, treasurer, and Irving Yudkoff of New York City, editor.

TWO NEW ORAL PATHOLOGY SETS AVAILABLE ON LOAN

Two new study sets, "Lesions of the Jaw Bones" and "Oral Pathology (Large Set)," have been completed by the Registry of Oral Pathology of the American Dental Association. The study sets may be borrowed without charge for a period of two weeks. They may be obtained from Col. Joseph L. Bernier, (DC) USA, chief, Oral Pathology Branch, Armed Forces Institute of Pathology, Washington, D. C.

"Lesions of the Jaw Bones" contains 50 2 by 2 inch copies of roentgenograms as well as microscopic slides of each lesion. Case histories and commentary are included. "Oral Pathology" contains 100 microscopic slides covering the entire field of dental and oral pathology. A printed syllabus includes clinical notes, microscopic findings and references.

FRATERNITY NAMES JOSEPH APPLETON MAN OF THE YEAR

Joseph L. T. Appleton, faculty member at the School of Dentistry, University of Pennsylvania, was named Sigma Epsilon Delta's man of the year at the fraternity's meeting May 19 in Monticello, N. Y. Dr. Appleton was honored for his contributions to dental education.

Joseph L. T. Appleton (center) was named Sigma Epsilon Delta's man of the year at the fraternity's meeting May 19 in Monticello, N. Y. Presenting the award are Maxwell Heckler (left), University of Pennsylvania Class of 1914 and a classmate of Dr. Appleton's, and Daniel Schwartz, fraternity Grand Master.

Dr. Appleton began his teaching career as a chemistry and zoology instructor at Pennsylvania State College in 1910. He has been on the faculty at the School of Dentistry of the University of Pennsylvania since 1914.

Dr. Appleton is past chairman of the health division of the Philadelphia Health and Welfare Council, past chairman of the U. S. Public Health Service dental study section, a member of the National Research Council, committee on dentistry, and a member of the U. S. Army dental research advisory committee.

Other honors held by Dr. Appleton are the Callahan Medal of the Ohio State Dental Society, the Fones Award of the Connecticut State Dental Society and the University of Pennsylvania Award of Merit. He received the Columbia University Research Award for the year 1955.

CORRECTION

The July issue of THE JOURNAL erred in stating that William J. Gies was born in Reisterstown, Pa. Dr. Gies, one of dentistry's most distinguished men, was born in Reisterstown, Md.

BETH ISRAEL OFFERS TWO DENTAL COURSES THIS FALL

The dental department of the Beth Israel Hospital in Boston announces two postgraduate courses in periodontics to be given in the fall. A five day course in occlusal adjustment is offered September 10-14. Diagnostic methods and treatment procedures will be demonstrated in the clinic. The necessary background material will be presented also. The second course, a two week seminar in periodontics, is scheduled for November 5-16. Technics for therapy as well as theoretical background are to be taught.

CHILDREN'S DENTISTRY GROUP PLANS CLOSED CIRCUIT TV

A live, closed circuit television program will again be a feature of the annual meeting of the American Society of Dentistry for Children. The meeting will be held in Atlantic City, September 28-30, just prior to the American Dental Association's annual session.

The television program will be presented by medical and dental staff members of Children's Hospital in Philadelphia. Television was used successfully in the Society's program a year ago.

The group also plans 26 table clinics by clinicians from 11 university departments of pedodontics. In addition, there will be a symposium entitled "Preventive Dentistry for the Child Patient." Panelists are Joseph F. Volker, dean of the School of Dentistry, University of Alabama; M. Michael Cohen, School of Dental Medicine, Tufts University, and Faustin N. Weber, professor of orthodontics, College of Dentistry, University of Tennessee.

Also • Two articles on dental health appear in current issues of national circulation publications. *McCall's* in August carries "The Fluoridation Scare," which points out that opponents of fluoridation have been conducting a campaign of fear to prevent adoption of fluoridation, a tested and valuable public health measure. *McCall's* has a circulation of about four and a half million. The article is condensed in *Reader's Digest*, August issue, circulation, more than ten million. "Can We Lick Our Biggest Health Problem?" is the title of an article in the July 29 issue of *Family Weekly*, a Sunday supplement which goes to small town newspapers across the nation. The article discusses the need for dental research and quotes extensively from American Dental Association officials. . . . H. F. Helmholz of Rochester, Minn., noted pediatrician and an emeritus member of the Mayo Clinic, spoke on fluoridation before the International Pediatrics Congress in Copenhagen last month. Dr. Helmholz has been an active proponent of fluoridation as chairman of the committee on health of the National Congress of Parents and Teachers. . . . The American Society of Oral Surgeons meets in New York City September 25-28. Information on the meeting may be obtained from Miss Ruth Whalen, executive secretary, M.C.V. Box 876, Richmond 19, Va. . . . George E. Waterman in July became chief of the dental branch in the U. S. Public Health Service Division of Indian Health, supervising the work of 62 dentists and auxiliary personnel in the expanded Indian health program.

Book Reviews

ENCYCLOPAEDIA BRITANNICA

William Benton, publisher. Walter Yust, editor. 24 volumes. 24,000 pages with 15,181 illustrations, charts and maps. Index. Appendix. Chicago, Encyclopaedia Britannica, Inc., 1956.

The *Encyclopaedia Britannica,* the world's greatest single source of information and knowledge according to its publisher, was founded in Edinburgh, Scotland, in 1768. The thistle symbol on its covers recalls its Scotch ancestry. The first set, consisting of three volumes, 2,670 pages and 160 copper engravings, was completed in 1771. The current 1956 edition consists of 24 volumes, 24,000 pages and about 15,000 illustrations.

Some 5,000 contributors, among them the American Dental Association's H. Trendley Dean and George B. Denton, and an editorial staff of 350, keep pace with the constant changes in every phase of human endeavor, especially the progress in science.

Unlike the old-fashioned lexicographic reference works, the *Encyclopaedia Britannica* is not a dull source of information. Its use of pictures to convey knowledge adds to its interest.

Throughout its 188 years of existence, *Britannica* has acquired a reputation for accuracy. Critics of *Britannica* usually take exception, not to what is said or how it is said, but rather to what is omitted. Dentists, for instance, may criticize the fact that all matters concerning dentistry appear combined in a single narrative, and that dental topics such as endodontics, orthodontics, pedodontics, periodontics, prosthetics, oral and plastic surgery, and operative dentistry do not appear as specific entries. Newer dental treatments, inventions and procedures such as fluoridation are hardly mentioned.

An encyclopedia, however, is not a dictionary; the essential difference between these reference works is that a dictionary attempts to define the meaning of each term listed whereas an encyclopedia concentrates all available facts concerning an individual field into constantly revised and rewritten specific articles, treating the whole subject as a unit.

Each year the *Encyclopaedia Britannica* is reprinted and each annual reissue contains revisions which are deemed most essential. In less than 20 years, there have been 25 of these new printings. As many as 3,000,000 words of text and hundreds of illustrations are changed in each printing to bring *Britannica* up to date. The result is that the set each year is as abreast of the time in style, information and knowledge as it is humanly possible to make it.

Paul H. Glucksman

YEARBOOK OF DENTISTRY: 1955-1956 SERIES

Edited by Stanley D. Tylman, D.D.S., Donald A. Keyes, D.D.S., John W. Knutson, D.D.S., Harold J. Noyes, D.D.S., Hamilton B. G. Robinson, D.D.S., and Carl W. Waldron, D.D.S. 461 pages with 317 illustrations. Index. $6. Chicago, The Yearbook Publishers, 1956.

This edition of the yearly abstracts of dental literature follows the established pattern of summaries of current thought and practices in clinical dentistry. *Dentistry* is one of "the practical medicine year books" issued by these publishers. It is useful to medical readers interested in the advances in oral diagnosis and oral therapeutics as an aid to effective dental-medical cooperation. The subject matter in the oral health field is organized into the following major divisions: oral pathology and oral medicine; operative dentistry; oral surgery; prosthetics; orthodontics and public health.

The text proper follows a somewhat more logical order, beginning with diagnosis, which precedes medical, surgical and restorative treatment in dental practice. Eleven summaries outline symptomatology related to pain, temporomandibular joint pathology, cancer of the tongue, ocular disturbances and other conditions encountered in daily dental practice. The book stresses that the family dentist must be trained to take the biopsy in order to assume his proper role in the cancer-control team. It would be helpful to indicate other diagnostic aids which the dentist should be prepared to employ in the care of dental patients with oral manifestations of systemic disease.

With the increasing interest in the prevention of tooth loss due to periodontal disease, the section on pulpal and periodontal diseases and related pathology should be of much interest to the dental reader. Discussion in this section includes advantages and disadvantages of antibiotics in endodontics, as well as pro-

cedures in sterilization of pulp canals, the use of polyantibiotic paste in root canal therapy and related topics. Since a larger portion of space in this section is devoted to mucosal oral-systemic lesions, it would seem practical to cover these conditions under a separate section devoted to oral medicine as distinct from endodontics.

Public health, which follows next, presents newer trends in the dental field traditionally not thought of as belonging to dental public health administration. Illustrative of the expanding field of dental public health are the informative summaries concerned with oral health and the adult population, medical-dental cooperation in public health and occupational health, as well as health education methods and recent studies in caries control and the effectiveness of community water fluoridation as a partial caries preventive.

Other sections cover the subject matter in the usual easy-to-read style with comments and fine illustrations. The 11 topics under the heading of "Research in Prosthetics," following the discussions on restorative and prosthetic dentistry, and the five topics on "Research," completing the section on orthodontics, suggest that clinical research might be included in other areas of practice.

The oral clinician will be rewarded by having at his disposal this ready reference work.

Charles Frederick Harper

PRESENT KNOWLEDGE IN NUTRITION

Prepared from articles published in Nutrition Review. Second edition. 130 pages. $2. New York, The Nutrition Foundation, Inc., 1956.

This monograph presents in condensed form up-to-date information on various factors in the nutritive process. Its purpose is to bring professionally trained persons abreast of current research in the science of nutrition.

Twenty-seven chapters are devoted to the following subjects: vitamin-enzyme relationships, calories, carbohydrate, protein, influence of nonprotein calories on protein metabolism, calorie priorities in parenteral nutrition, fat, the minerals, calcium, iron and copper, the relation of nutrition to dental caries, fluorine, vitamin A, vitamin D, vitamins E and K, ascorbic acid, thiamine, riboflavin, niacin, vitamin B_6, pantothenic acid, biotin, folacin, citrovorum factor, vitamin B_{12}, methyl groups, lipoic acid. These are the same chapter headings that were used in the first edition, but the order of the chapters has been rearranged and the content revised.

The chapter titled "Present Knowledge of the Relation of Nutrition to Dental Caries," and that entitled "Present Knowlege of Fluorine" have been enlarged and strengthened. The chapter on fluorine points out that "fluorine is undoubtedly the most striking contribution to preventive dental medicine that has been made." However, it urges that supplementary methods of controlling tooth decay continue to be sought.

The chapter on dental caries reviews nutrition-dental research, including studies of historical importance and those of recent date. Various nutrition-dental caries theories are described, and ways in which a tooth is nourished are discussed.

Mrs. E. A. Martin

ERKRANKUNGEN DER MUNDSCHLEIMHAUT (DISEASES OF THE MUCOUS MEMBRANE)

By Prof. Hermann Mathis. Second edition. 92 pages with 79 illustrations. Index. DM. 13.40. Leipzig, Germany, Johann Ambrosius Barth, 1956.

The second edition of this work on the pathology of the mucous membrane, appearing only a short time after its first edition, has been re-edited and thoroughly revised to include material on subjects such as efflorescence, erythropoiesis and leukopoiesis. The other chapters, including those on oral infections, inflammations, precancerous conditions, carcinomas, and abnormal pigmentation also were partially rewritten and reorganized.

Conditions of the mucous membrane in which the causative factors are either obscure or psychosomatic are sometimes presented without sufficient supporting evidence.

This rather small work, number six of the publisher's series on dental education, is concise, informative and unusually well written. Each chapter is provided with a bibliography. For those who want to read a well-presented and conservative synopsis with a distinct European flavor on the diseases of the mucous membrane, this book can be recommended.

Paper and binding are adequate, and the type size and style contribute to the readability of the book.

Paul H. Glucksman

Deaths

Adams, Charles F., Bay City, Mich.; Detroit College of Medicine, Department of Dental Surgery, 1902; died Feb. 16.

Adams, Harold B., Springfield, Mass.; University of Pennsylvania, School of Dentistry, 1906; died Feb. 27; aged 71.

Allen, Henry R., New York; Tufts University, School of Dental Medicine, 1912; died March 16; aged 66.

Barry, Glen C., Los Angeles; University of Denver, School of Dentistry, 1925; died May 26, 1955; aged 57.

Bell, Ludwig G., New Ulm, Minn.; Indiana Dental College, 1887; died March 11; aged 91.

Berman, Milton, Columbus, Ohio; Ohio State University, College of Dentistry, 1940; died Feb. 10; aged 42.

Boarts, Carl C., Kittaning, Pa.; University of Pennsylvania, School of Dentistry, 1912; died Dec. 12, 1955; aged 68.

Bokay, Charles E., Los Angeles; University of Southern California, College of Dentistry, 1913; died March 3; aged 70.

Brady, Joseph E., Farmington, Mich.; Detroit College of Medicine, Department of Dental Surgery, 1907; died Feb. 28; aged 74.

Broad, Charles J., Berkeley, Calif.; University of California, College of Dentistry, 1910; died April 9; aged 70.

Brown, Arthur H., Denver; Northwestern University, Dental School, 1899; died Feb. 21; aged 81.

Buckenmyer, Frederick, Belvidere, N. J.; University of Pennsylvania, School of Dentistry, 1941; died March 19; aged 41.

Bulkostein, Samuel, Lynbrook, N. Y.; College of Dental and Oral Surgery, New York, 1921; died Dec. 22, 1955.

Bundy, Willard C., Cranston, R. I.; Baltimore College of Dental Surgery, University of Maryland, 1914; died March 4; aged 70.

Cairns, Francis W., Boston; Baltimore College of Dental Surgery, 1905; died March 8; aged 74.

Chisholm, Reginald H., Chicago; Northwestern University Dental School, 1923; died March 19; aged 58.

Chromaster, Edward J., Thiensville, Wis.; died Feb. 12; aged 82.

Church, Harry M., Gardiner, Maine; Tufts University, School of Dental Medicine, 1907; died March 10; aged 70.

Cilliers, Jean H., Grand Rapids, Mich.; University of Michigan, College of Dental Surgery, 1924; died March 19; aged 57.

Cleary, John J., St. Louis; St. Louis University, School of Dentistry, 1928; died March 22; aged 50.

Cobb, Edward W., Taylor, Texas; Meharry Medical College, Dental Department, 1927; died Jan. 6; aged 53.

Cofield, Jesse F., Wauwatosa, Wis.; Indiana Dental College, 1899; died March 20; aged 84.

Coker, William H., Pensacola, Fla.; Southern Dental College, Atlanta, 1912; died Feb. 27; aged 69.

Cole, Thomas, Newman, Ga.; Vanderbilt University, School of Dentistry, 1886; died March 25; aged 91.

Combel, Robert U., New Orleans; Tulane University, School of Dentistry, 1910; died March 19; aged 77.

Comstock, R. C., Sidney, Ohio; died March 17; aged 64.

Cook, Robert T., Little Rock, Ark.; St. Louis University, School of Dentistry, 1911; died March 21; aged 69.

Craner, Charles M., Syracuse, N. Y.; University of Buffalo, School of Dentistry, 1903; died March 7; aged 82.

Cuden, Charles S., Pittsburgh; University of Pittsburgh, School of Dentistry, 1909; died Feb. 22; aged 69.

Cumming, William H., Seattle; Philadelphia Dental College, 1896; died Feb. 12; aged 82.

Curley, Alfred E., Seward, Neb.; University of Nebraska, College of Dentistry, 1918; died March 16; aged 59.

Daniel, Alexander F., Milledgeville, Ga.; Southern Dental College, Atlanta, 1906; died Dec. 2, 1955; aged 83.

Davidson, Joel E., Boston; died August 12, 1955; aged 64.

Debe, Fred R. E., Waterloo, Iowa; University of Iowa, College of Dentistry, 1922; died Feb. 28; aged 56.

Deekens, William F., Wytheville, Va.; Baltimore College of Dental Surgery, University of Maryland, 1892; died Jan. 12; aged 95.

Detweiler, Isaac C., Easton, Pa.; University of Pennsylvania, School of Dentistry, 1907; died March 15; aged 71.

Dolan, Edward G., Washington, D. C.; University of Pennsylvania, School of Dentistry, 1912; died March 21; aged 67.

Doremus, Percy N., Red Bank, N. J.; University of Pennsylvania, School of Dentistry, 1937; died March 21; aged 44.

Douglas, Arthur F., Chattahoochee, Fla.; Northwestern University Dental School, 1903; died Feb. 19; aged 77.

Duff, James K., La Grange, Ind.; Indiana Dental College, 1909; died Feb. 25; aged 73.

Edmand, Paul A., Chicago; University of Iowa, College of Dentistry, 1910; died March 24; aged 66.

Edwards, Charles C., Titusville, Pa.; University of Pittsburgh, School of Dentistry, 1931; died Feb. 16; aged 50.

Everett, John F., Duryea, Pa.; University of Pennsylvania, School of Dentistry, 1925; died Feb. 8; aged 55.

Feeny, James M., Sacramento, Calif.; College of Physicians and Surgeons, 1919; died Feb. 19.

Fehlman, Albert K., Watertown, S. D.; Northwestern University Dental School, 1926; died Jan. 9; aged 56.

Gabbard, James C., Berea, Kentucky; Louisville College of Dentistry of Centre College, 1918; died March 18; aged 67.

Gage, William J., Atlanta, Ga.; Atlanta-Southern Dental College, 1929; died Feb. 16; aged 53.

Gill, Horace T., Elkton, Ky.; Vanderbilt University, School of Dentistry, 1899; died March 4; aged 75.

Glickstein, Sonia R., Boston; Tufts University, School of Dental Medicine, 1924; died March 16; aged 61.

Gorman, Richard C., Detroit; University of Michigan, College of Dental Surgery, 1922; died Feb. 8; aged 61.

Haddock, Robert B., Lakeland, Fla.; Southern Dental College, Atlanta, 1914; died March 6; aged 72.

Halmhuber, Paul G., Detroit; University of Illinois, College of Dentistry, 1919; died March 10; aged 64.

Hardaway, A. Moorman, Big Spring, Ky.; Louisville College of Dentistry of Centre College, 1905; died March 23; aged 79.

Harman, Helen H., Grand Rapids, Mich.; University of Michigan, College of Dental Surgery, 1935; died Feb. 13; aged 59.

Harmon, Thomas F., Sallisaw, Okla.; Washington University, School of Dentistry, St. Louis, 1908; died March; aged 72.

Heymann, George H., Louisville, Ky.; Vanderbilt University, School of Dentistry, 1904; died Feb. 9; aged 72.

Hibbard, Leo C., Chicago; University of Illinois, College of Dentistry, 1917; died March 19; aged 64.

Hildebrant, William L., East Orange, N. J.; New York College of Dentistry, 1909; died March 25; aged 72.

Meagher, Francis L., Oakland, Calif.; College of Physicians and Surgeons, 1914; died March 10; aged 64.

Menaker, Louis L., Philadelphia; University of Pennsylvania, School of Dentistry, 1922; died Feb. 22; aged 57.

Miller, Edward S., Woodsville, N. H.; Baltimore College of Dental Surgery, University of Maryland, 1900; died Feb. 13; aged 90.

Moyer, Miles J., Monroe, Mich.; University of Michigan, College of Dental Surgery, 1894; died March 23; aged 90.

Mulcahy, Richard J., Hingham, Mass.; Tufts University, School of Dental Medicine, 1912; died Jan. 4; aged 70.

Muller, Waldemar A., Philadelphia; Medico-Chirurgical College of Philadelphia, 1907; died Dec. 26; aged 71.

Murphy, John E., Portage, Wis.; Marquette University, Dental School, 1921; died Feb. 12; aged 66.

Mylroie, William G., Dodgeville, Wis.; Northwestern University Dental School, 1905; died Dec. 17, 1955; aged 71.

O'Donnell John F., New Bedford, Mass.; Tufts University, School of Dental Medicine, 1943; died March 16; aged 40.

Okey, Robert H., St. Paul; University of Minnesota, College of Dentistry, 1942; died Feb. 24; aged 36.

Oling, Maxwell J., Brooklyn; New York College of Dentistry, 1917; died March 12; aged 63.

Orr, Winfred H., Detroit; Meharry Medical College, Dental Department, 1923; died Jan. 31; aged 68.

Pennie, Philo, Oakland, Calif.; University of Minnesota, College of Dentistry, 1923; died April 1, 1956; aged 59.

Pentz, Albert D., St. George, N. Y.; New York College of Dentistry, 1897; died Feb. 19; aged 80.

Peterson, Clifford J., Mankato, Minn.; University of Iowa, College of Dentistry, 1919; died Feb. 6; aged 58.

Phillips, Herbert E., Lemont, Ill.; Northwestern University Dental School, 1901; died March 12; aged 81.

Wherritt, Charles F., Kamas, Utah; Kansas City Dental College, 1901; died January 1; aged 83.

Williams, Joseph H., St. Louis; St. Louis University, School of Dentistry, 1911; died January 25; aged 73.

Wittenbrook, Frederick H., Lima, Ohio; Northwestern University, Dental School, 1908; died January 11; aged 73.

Zeller, James B., Easton, Pa.; Pennsylvania College of Dental Surgery, Philadelphia, 1901; died February 2; aged 80.

Directory

OFFICERS

Bernerd C. Kingsbury, President.....490 Post St., San Francisco
Harry Lyons, President-Elect..School of Dentistry, Medical College of Virginia, Richmond, Va.
Francis J. Herz, First Vice-President.....450 Sutter St., San Francisco
Magnus C. Hansen, Second Vice-President.....420 Seventh St., Racine, Wis.
Marvin E. Kennebeck, Third Vice-President.....USAF, DC, Office of the Surgeon General, Washington, D.C.
Gerald D. Timmons, Speaker, House of Delegates.....3223 N. Broad St., Philadelphia
Harold Hillenbrand, Secretary.....222 E. Superior St., Chicago
C. Willard Camalier, Assistant Secretary.....1726 Eye St., N.W., Washington, D.C.
Louis M. Cruttenden, Assistant Secretary.....222 E. Superior St., Chicago
H. B. Washburn, Treasurer.....Lowry Medical Arts Bldg., St. Paul
Lon W. Morrey, Editor.....222 E. Superior St., Chicago

BOARD OF TRUSTEES

Arthur W. Easton, 1958, First District.....171 Main St., Norway, Maine
Earl G. Jones, 1958, Seventh District.....185 E. State St., Columbus, Ohio
A. F. Schopper, 1958, Sixth District.....Professional Bldg., Kansas City, Mo.
Lewis W. Thom, 1958, Tenth District.....Medical Arts Bldg., Minneapolis
John R. Abel, 1957, Thirteenth District.....10231 Santa Monica Blvd., Los Angeles 25
William R. Alstadt, 1957, Twelfth District.....Boyle Bldg., Little Rock, Ark.
Percy T. Phillips, 1957, Second District.....18 E. 48th St., New York
Clarence S. Renouard, 1957, Eleventh District.....Phoenix Bldg., Butte, Mont.
Howard B. Higgins, 1956, Fifth District.....Montgomery Bldg., Spartanburg, S.C.
L. H. Jacob, 1956, Eighth District.....Jefferson Bldg., Peoria, Ill.
Paul H. Jeserich, 1956, Ninth District.....School of Dentistry, University of Michigan, Ann Arbor, Mich.
Charles H. Patton, 1956, Third District.....235 S. 15th St., Philadelphia
Edward R. White, 1956, Fourth District.....921 Bergen Ave., Jersey City

BUREAUS

Dental Health Education: Perry J. Sandell, Director, 222 E. Superior St., Chicago
Economic Research and Statistics: B. D. Moen, Director, 222 E. Superior St., Chicago
Library and Indexing Service: Donald A. Washburn, Director, 222 E. Superior St., Chicago
Public Information: Herbert B. Bain, Director, 222 E. Superior St., Chicago

COUNCILS

Constitution and Bylaws: F. A. Pierson, Chm., Federal Securities Bldg., Lincoln, Neb.
Dental Education: Bert L. Hooper, Chm., Andrews Hall, University of Nebraska, Lincoln, Neb.
Shailer Peterson, Secy., 222 E. Superior St., Chicago
Dental Health: Raymond F. D. Johnson, Chm., Marquette Bank Bldg., Minneapolis
R. H. Friedrich, Secy., 222 E. Superior St., Chicago
Dental Research: Thomas J. Hill, Chm., 2085 Adelbert Rd., Cleveland
H. Trendley Dean, Secy., 222 E. Superior St., Chicago
Dental Therapeutics: Lester W. Burket, Chm., 4001 Spruce St., Philadelphia
J. Roy Doty, Secy., 222 E. Superior St., Chicago

Dental Trade and Laboratory Relations: Walter E. Dundon, Chm., 111 N. Wabash Ave., Chicago
Bernard J. Beazley, Secy., 222 E. Superior St., Chicago

Federal Dental Services: F. J. Reichmann, Chm., Medical Arts Bldg., Oklahoma City
Bernard J. Beazley, Secy., 222 E. Superior St., Chicago

Hospital Dental Service: Frank B. Hower, Chm., Heyburn Bldg., Louisville, Ky.
Gerard J. Casey, Secy., 222 E. Superior St., Chicago

Insurance: J. S. Eilar, Chm., 7 Medical Arts Square, N.E., Albuquerque, N. Mex.
Paul W. Zillmann, Secy., 29 Walden Ave., Buffalo

International Relations: O. A. Oliver, Chm., 1915 Broadway, Nashville, Tenn.

Journalism: W. L. Barnum, Chm., Morgan Bldg., Portland, Ore.

Judicial: H. B. McCarthy, Chm., College of Dentistry, Baylor University, Dallas, Texas
Bernard J. Conway, Secy., 222 E. Superior St., Chicago

Legislation: Paul E. Jones, Chm., 3 E. Church St., Farmville, N.C.
Bernard J. Conway, Secy., 222 E. Superior St., Chicago

Membership: J. R. Wallace, Chm., 31 Church St., Winchester, Mass.

National Board of Dental Examiners: William A. Dickson, Chm., Medical Arts Bldg., Minneapolis
Gerard J. Casey, Secy., 222 E. Superior St., Chicago

Relief: H. R. Bleier, Chm., 4177 N. Oakland Ave., Milwaukee
William O. Vopata, Secy., 1011 Lake St., Oak Park, Ill.

Scientific Session: Charles S. Kurz, Chm., 550 N. Eighth St., Carlyle, Ill.
Peter C. Goulding, Secy., 222 E. Superior St., Chicago

SECTION CHAIRMEN

Anesthesiology: Harold W. Krogh, 1835 Eye St., N.W., Washington, D.C.

Operative Dentistry: Charles B. Murto, School of Dentistry, Georgetown University, Washington, D.C.

Oral Surgery: J. Lorenz Jones, 405 N. Bedford Dr., Beverly Hills, Calif.

Orthodontics and Oral Development: George A. Dinham, Medical Arts Bldg., Duluth, Minn.

Pedodontics: Ruth E. Martin, 4559 Scott Ave., St. Louis

Periodontics: Samuel C. Miller, 57 W. 57th St., New York

Practice Administration: Wallace N. Kirby, 935 Curtis St., Downers Grove, Ill.

Prosthodontics, Complete: Arthur L. Roberts, Aurora National Bank Bldg., Aurora, Ill.

Prosthodontics, Partial: Richard L. Simpson, Medical College of Virginia, Richmond, Va.

Public Health Dentistry: Polly Ayers, Box 2591, Jefferson County Board of Health, Birmingham, Ala.

Research: Reidar F. Sognnaes, 188 Longwood Ave., Boston

Roentgenology: Sam W. Williams, Marquette Bank Bldg., Minneapolis

THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION
222 East Superior Street, Chicago 11, Illinois
WHitehall 4-6730

LON W. MORREY, *Editor* JOHN J. HOLLISTER, *Business Manager*

All expressions of opinion and all statements of supposed fact are published on the authority of the writer over whose signature they appear and are not to be regarded as expressing the views of the American Dental Association, unless such statements or opinions have been adopted by the Association. Articles are accepted with the understanding that they have not been published previously and that they are submitted solely to The Journal. The Journal of the American Dental Association is indexed in the Index to Dental Literature, in the Current List of Medical Literature and, in part, in the Quarterly Cumulative Index Medicus, Biological Abstracts and Chemical Abstracts.

Advertising copy must conform to the official standards established by the American Dental Association. Notice of change of address should be received one month before the change is to be effective. Orders for reprints of Journal articles must be received by the Business Manager's office not later than the 15th of the month of issue in order to secure advantages of the lowest possible prices. Orders received after this date are subject to special quotation.

Announcements

MEETINGS OF THE AMERICAN DENTAL ASSOCIATION

Ninety-Seventh Annual Session	Oct. 1-4, 1956	Atlantic City, N.J.
Ninety-Eighth Annual Session	Nov. 4-7, 1957	Miami, Fla.
Ninety-Ninth Annual Session	Nov. 10-13, 1958	Dallas, Texas
One-Hundredth Annual Session	Sept. 21-24, 1959	New York

MEETINGS OF CONSTITUENT SOCIETIES

State	Date	Place	Secretary	Address
Alabama	Apr. 16-18, 1957	Birmingham	F. A. Finney, Jr.	Box 787, Gadsden
Alaska	Aug. 15-18	Fairbanks	J. L. Irby	1010 Noble St., Fairbanks
Arizona			W. G. Burke	17 E. Weldon Ave., Phoenix
Arkansas	Apr. 7-10, 1957	Little Rock	D. M. Hamm	Box 89, Clarksville
California	Apr. 15-17, 1957	San Francisco	W. J. Healy	450 Sutter St., San Francisco
S. California	Apr. 7-10, 1957	Los Angeles	S. M. Silverman	903 Crenshaw Blvd., Los Angeles 19
Colorado	Oct. 21-24	Colorado Springs	W. R. Humphrey	Republic Bldg., Denver
Connecticut	May 15-17, 1957	Hartford	E. S. Arnold	37 Linnard Rd., W. Hartford
Delaware	Jan. 1957		J. C. Gantt	1102 N. Jackson, Wilmington
District of Columbia	Mar. 10-13, 1957	Washington	J. F. Keaveny	1029 Vermont Ave., N.W., Washington
Florida	Apr. 15-17, 1957	St. Petersburg	W. C. Mayo	Brent Annex, Pensacola
Georgia	Oct. 21-24	Savannah	J. W. Yarbrough	Southern United Bldg., Macon
Hawaii	Sept. 10-15	Maui Island	J. H. Dawe	810 N. Vineyard St., Honolulu
Idaho	Sept. 5-7	Sun Valley	D. E. Sonius	125 Fourth Ave., N., Twin Falls
Illinois	May 12-15, 1957	Peoria	P. W. Clopper	Jefferson Bldg., Peoria
Indiana			W. R. Shoemaker	Citizens Bank Bldg., Anderson
Iowa	May 5-8, 1957	Des Moines	H. I. Wilson	Insurance Exchange Bldg., Des Moines
Kansas	May 13-16, 1957	Wichita	F. A. Richmond	Brotherhood Bldg., Kansas City
Kentucky	Mar. 31-Apr. 3, 1957	Louisville	A. B. Coxwell, Jr.	1976 Douglass Blvd., Louisville
Louisiana	Apr. 24-27, 1957	Lake Charles	J. S. Bernhard	2515 Line Ave., Shreveport
Maine			S. M. Gower	Box 27, Skowhegan
Maryland	May 5-8, 1957	Baltimore	C. L. Inman, Jr.	Medical Arts Bldg., Baltimore
Massachusetts	May 5-8, 1957	Boston	H. E. Tingley	12 Bay State Rd., Boston 15
Michigan			F. Wertheimer	Michigan Dept. of Health, Lansing
Minnesota	Apr. 1-3, 1957	Minneapolis	C. V. E. Cassel	Hamm Bldg., St. Paul
Mississippi	Apr. 28-May 1, 1957	Jackson	B. A. Cohen	Plaza Bldg., Jackson 27
Missouri	May 26-29, 1957	St. Louis	E. D. Suggett	Merchants Bank Bldg., Jefferson City
Montana			E. G. Vedova	Box 311, Roundup
Nebraska	Apr. 29-May 1, 1957	Lincoln	F. A. Pierson	Federal Securities Bldg., Lincoln
Nevada	May 1957	Las Vegas	O. M. Seifert	755 Ryland Ave., Reno
New Hampshire			F. E. Williams	814 Elm St., Manchester
New Jersey	May 12-15, 1957		J. G. Carr	407 Cooper St., Camden
New Mexico			J. S. Ellar	7 Medical Arts Sq., N.E., Albuquerque
New York			C. A. Wilkie	1 Hanson Pl., Brooklyn
North Carolina	May 5-8, 1957	Pinehurst	L. H. Butler	Jefferson Bldg., Greensboro
North Dakota	Apr. 28-May 1, 1957	Fargo	J. H. Pfister	419½ Dakota Ave., Wahpeton
Ohio	Oct. 28-31	Columbus	E. G. Jones	185 E. State St., Columbus
Oklahoma	Apr. 14-17, 1957	Tulsa	S. A. Russman	1219 Classen Dr., Oklahoma City
Oregon	Mar. 4-6, 1957	Portland	T. D. Holder	Selling Bldg., Portland

State	Date	Place	Secretary	Address
Panama Canal Zone			A. L. Robertson	5700 USAF Dispensary, Albrook Air Force Base
Pennsylvania			M. D. Zimmerman	217 State St., Harrisburg
Puerto Rico	Nov. 25		R. Carrasquillo	P. O. Box 214, De Diego #3 Rio Piedras
Rhode Island			J. S. Allen	Union Trust Bldg., Providence
South Carolina	May 12-14, 1957	Myrtle Beach	J. E. Wallace	1420 Gregg St., Columbia
South Dakota			R. E. Decker	Box 308, Parker
Tennessee			A. M. Ballentine	215 W. Flower St., Pulaski
Texas			W. Ogle	3707 Gaston Ave., Dallas 10
Utah	May 23-25, 1957	Salt Lake City	R. C. Dalgleish	State Capitol Bldg., Salt Lake City
Vermont	May 26-28, 1957	Manchester	E. H. Van Santvoord	22 Washington St., Rutland
Virginia	Apr. 29-May 1, 1957	Virginia Beach	W. T. McAfee	Colonial National Bank Bldg., Roanoke
Washington	Apr. 1-3, 1957	Seattle	J. M. Deines	227 Broadway, N., Seattle
West Virginia			G. N. Casto, Jr.	710½ Lee St., Charleston
Wisconsin	Apr. 29-May 1, 1957	Milwaukee	H. O. Hoppe	1331 W. Vliet St., Milwaukee
Wyoming			T. J. Drew	State Office Bldg., Cheyenne

MEETINGS OF STATE BOARDS OF DENTAL EXAMINERS

State	Date	Place	Secretary	Address
Alabama			W. L. McCarty	Professional Center, Montgomery
Alaska	Aug. 7-10* Aug. 7, 8†	Fairbanks	R. H. Williams	Box 2122, Juneau
Arizona			W. G. Biddulph	1502 W. Osborn Rd., Phoenix
Arkansas			W. T. Jones	107 E. Shelton, Monticello
California			T. G. Atwood	450 Sutter St., San Francisco
Colorado			R. F. Gilmore	Republic Bldg., Denver
Connecticut			C. G. Brooks	302 State St., New London
Delaware			P. K. Musselman	143 W. Main St., Newark
District of Columbia			W. T. Birthright	1835 Eye St., N.W., Washington
Florida			R. P. Taylor, Jr.	P. O. Box 2913, Jacksonville
Georgia			P. M. McNeil	First National Bank Bldg., Rome
Hawaii	Aug. 30-Sept. 3‡		H. L. Houvener	Dillingham Bldg., Honolulu
Idaho			A. G. DeWinter	Sun Bldg., Boise
Illinois	Nov. 27-30‡		W. A. McKee	Wood Bldg., Benton
Indiana	Nov. 5-8*†	Indianapolis	C. A. Frech	Gary National Bank Bldg., Gary
Iowa	May 27-31, 1957*†	Iowa City	P. A. Hahn	Farmers & Merchants Bank Bldg., Burlington
Kansas			G. L. Teall	Box 71, Hiawatha
Kentucky			J. J. Kelly	102 W. Madison St., Franklin
Louisiana			R. C. Steib	Maison Blanche Bldg., New Orleans
Maine			A. S. Appleby	Box 260, Skowhegan
Maryland			H. Levin	3429 Park Heights Ave., Baltimore
Massachusetts			T. J. Glennon	323 Main St., Woburn
Michigan			J. L. Champagne	3714 W. McNichols Rd., Detroit
Minnesota	Jan. 7-11, June 17-21, 1957*†	Minneapolis	M. G. Walls	Lowry Bldg., St. Paul
Mississippi			J. C. Boswell	Medical Arts Bldg., Jackson
Missouri			R. R. Rhoades	Central Trust Bldg., Jefferson City
Montana			R. O. Betzner	303 Power Block, Helena
Nebraska			H. E. Weber	Federal Securities Bldg., Lincoln
Nevada			R. Whitehead	Masonic Temple, Reno
New Hampshire			S. G. Markos	8 Renaud Ave., Dover
New Jersey			W. A. Wilson	150 E. State St., Trenton
New Mexico			J. J. Clarke, Sr.	Artesia
New York	Oct. 10, 11, 16-19*‡ Oct. 10, 16, 17†‡		D. W. Beier	23 S. Pearl St., Albany 7
North Carolina			J. H. Guion	Doctors Bldg., Charlotte 7
North Dakota			T. M. Flath	Williston
Ohio			H. B. Smith	322 E. State St., Columbus
Oklahoma			W. E. Cole	2420 N. Meridian, Oklahoma City
Oregon			F. L. Utter	Pioneer Trust Bldg., Salem
Pennsylvania			A. M. Stinson	Dept. of Public Instruction, Box 911, Harrisburg
Puerto Rico			J. Mercado C.	Box 3717, Santurce

State	Date	Place	Secretary	Address
Rhode Island			F. M. Hackett	267 Academy Ave., Providence
South Carolina			J. L. Gunter	1226 Pickens St., Columbia
South Dakota			H. T. Aker	Canton
Tennessee	Dec. 10-14‡		C. R. Aita	Bennie Dillon Bldg., Nashville
Texas			R. T. Weber	Capital National Bank Bldg., Austin
Utah			G. W. Vogel	Eccles Bldg., Ogden
Vermont			P. M. Fitch	Newport
Virginia			J. M. Hughes	Medical Arts Bldg., Richmond
Washington	Jan. 14-17, 1957	Seattle	R. W. Frick	Chard Bldg., Pomeroy
West Virginia			J. B. Davis	Goff Bldg., Clarksburg
Wisconsin			S. F. Donovan	Tomah
Wyoming			W. A. Hocker	O & S Bldg., Casper

Most states require applications to be in 30 days prior to examination date.
*Dental examination. †Dental hygiene examination. ‡Write to secretary of dental examining board for information on locations of examinations.

MEETINGS OF OTHER ORGANIZATIONS

Name	Date	Place	Secy. or Chm.	Address
American Academy of Maxillofacial Prosthetics	Jan. 31-Feb. 2, 1957	Chicago	A. H. Bulbulian Pres.	Mayo Clinic, Rochester, Minn.
American Academy of Oral Roentgenology	Sept. 28, 29	Atlantic City, N.J.	H. M. Berry, Jr. Secy.	4001 Spruce St., Philadelphia 4
American Academy of Periodontology	Sept. 27-29	Atlantic City, N.J.	C. E. Chamberlain Secy.	1101 N. North St., Peoria, Ill.
American Association of Dental Editors	Sept. 29	Atlantic City, N.J.	A. H. Kutscher Secy.	1107 Fifth Ave., New York 28
American Association of Dental Examiners	Sept. 28, 29	Atlantic City, N.J.	C. A. Bumstead Secy.	Stuart Bldg., Lincoln, Neb.
American Board of Dental Public Health	Sept. 27, 28	Atlantic City, N.J.	P. E. Blackerby, Jr. Secy.	250 Champion St., Battle Creek, Mich.
American College of Dentists	Sept. 30	Atlantic City, N.J.	O. W. Brandhorst Secy.	4221 Lindell Blvd., St. Louis 8
American Dental Assistants Association	Oct. 1-4	Atlantic City, N.J.	M. L. Martin Exec. Secy.	410 First National Bank Bldg., La Porte, Ind.
American Dental Society of Anesthesiology	Sept. 29, 30	Atlantic City, N.J.	A. J. Follenius Secy.	73 New York Pl., Staten Island 14, N.Y.
American Denture Society	Sept. 28, 29	Atlantic City, N.J.	V. L. Steffel Secy.	College of Dentistry, Ohio State University, Columbu
American Institute of Dental Medicine	Nov. 4-8	Palm Springs, Calif.	M. Lewis Exec. Secy.	2240 Channing Way, Berkeley 4, Calif.
American Public Health Association, Inc.	Nov. 12-16	Atlantic City, N.J.	R. M. Atwater Exec. Secy.	1790 Broadway, New York
American Society of Dentistry for Children	Sept. 28-30	Atlantic City, N.J.	H. C. Hester Pub. Chm.	Arcade Bldg., Glen Ridge, N.J.
American Society of Oral Surgeons	Sept. 25-28	New York	R. F. Whalen Exec. Secy.	M.C.V. Box 876, Richmond, Va.
Association of American Women Dentists	Oct. 1	Atlantic City, N.J.	N. E. McDonald Secy.	151 Engle St., Englewood, N.J.
Association of Dental Specialists	Sept. 13-15	Carinthia, Austria	H. A. Richter Chm.	10 Oktober Strasse, Klagenfurt, Austria
Bermuda Dental Association, Mid-Atlantic Dental Conference	Oct. 7-10	Hamilton, Bermuda	W. C. Price	Bermuda Dental Association, Hamilton, Bermuda
Chicago Dental Society	Feb. 3-6, 1957	Chicago	K. S. Richardson Exec. Secy.	30 N. Michigan Ave., Chicago
Council on Dental Education, Dental Aptitude Tests	Oct. 5, 6		S. Peterson Secy.	222 E. Superior St., Chicago
Danish Dental Association	Sept. 27	Copenhagen, Denmark	F. Orth	Østerbrogade 4, Copenhagen, Denmark
Denver Dental Association	Jan. 6-9, 1957	Denver	E. T. Klein Secy.	Republic Bldg., Denver
European Orthodontic Association	Aug. 9-13	Stockholm, Sweden	A. Lundström	Stureplan 19, Stockholm, Sweden
Greater New York Dental Meeting	Dec. 3-7	New York	R. E. Morse Gen. Chm.	Hotel Statler, New York 1
Journadas Odontologicas de la Sociedad Dental de Guatemala	Aug. 14-19	Guatemala City	A. Hurtarte E. Secy.	4A Avenida 12-47, Guatemala City, Guatemala

Name	Date	Place	Secy. or Chm.	Address
Mid-Continent Dental Congress and Centennial Meeting of the St. Louis Dental Society	Nov. 25-28	St. Louis	J. E. Brophy Exec. Secy.	8013 Maryland Ave., St. Louis 5
National Association of Seventh-Day Adventist Dentists	Sept. 28-30	Atlantic City, N.J.	J. Bata, Jr. Secy.	5403 Queens Chapel Rd., Hyattsville, Md.
National Board of Dental Examiners	Dec. 3, 4		G. J. Casey Secy.	222 E. Superior St., Chicago
New England Dental Society	Oct. 24, 25	Boston	F. L. Finley, Jr. Secy.	43 Farmington Ave., Hartford, Conn.
New Orleans Dental Conference	Nov. 11-14	New Orleans	B. G. Frick, Jr. Secy.	Maison Blanche Bldg. New Orleans 16
Northeastern Society of Orthodontists	Oct. 29, 30	Hartford, Conn.	W. J. Prezzano Secy.	Medical Centre, White Plains, N.Y
Peruana Society of Dental and Maxillofacial Prosthesis, First National Congress	Sept. 19-22	Lima, Peru	J. Begazo S. Secy.	Pasaje Olaya 156, No. 38, Lima, Peru
Southern Society of Orthodontists	Aug. 19-22	White Sulphur Springs, W.Va.	M. D. Edwards Secy.	132 Adams Ave., Montgomery, Ala.
Southwestern Society of Orthodontists	Oct. 7-10	Houston, Texas	H. S. Born Secy.	908 S. Johnstone Ave., Bartlesville, Okla.
Thirteenth German Dental Meeting	Aug. 20-26	Munich, Germany	F. H. Witt	Universitaetsstrasse 73, Cologne-Lindenthal, Germany
Thirtieth Journees Dentaires Internationales de Paris	Nov. 26-Dec. 2	Paris, France	P. Coustaing Secy. Gen.	50, rue Pierre Charron, Paris, France
Thirty-first Italian Congress of Stomatology	Sept. 24-29	Florence, Italy	M. Bergamini	Via S. Gallo 25, Florence, Italy
Twelfth International Dental Congress	Sept. 7-14	Rome, Italy	P. Lalli Secy. Gen.	Via Boezio 16, Rome, Italy

INDEX TO ADVERTISEMENTS

August 1956

Abbott Laboratories A-18
American Bakers Association A-8
American Dental Association
"A New Aid to Patient Education by a New Technic" A-34
Dental Abstracts A-25
Dental Aptitude Testing A-30, A-31
Hotel Reservations A-52, A-53
Amurol Products A-9, A-46
Ash, Sons & Co., Inc., Claudius A-47
Astra Pharmaceutical A-14

Baker & Company, Inc. A-62
Boos Dental Laboratories, Inc., Henry P. A-57
Bowen & Company, Inc. A-28
Bristol-Myers Company ..... 3rd Cover

Caulk Co., L. D. A-48, A-49
Cavitron Equipment Corp. A-67
Chayes Dental Instrument Corp. A-40
Church & Dwight Co., Inc. A-50
Classified Advertising A-35, A-36, A-37, A-38
Coe Laboratories, Inc. A-54
Columbia Dentoform Corp. A-28
Columbus Dental Mfg. Co. A-19
Cook-Waite Laboratories, Inc. A-58, A-59
Corega Chemical Company A-45
Crescent Dental Mfg. Co. A-44

Department of the Army A-22
Dental Absorbents A-32
Dental Perfection A-60, A-61
Dentists' Supply Co., of New York ..... 4th Cover
Dresch Laboratories, Inc. A-69
Du Pont de Nemours & Co., Inc., E. I. A-56

Eastman Kodak Company A-2, A-3

Fleet Co., C. B. A-51
Florida Citrus Commission A-26

General Electric Company A-13
Gesner Co., M. A. A-42
Great-West Life Assurance Co. A-66

Howard Travel Service A-32
Hudson Products, Inc. A-63

Invincible Metal Furniture Co. A-28

Jelenko & Co., J. F. A-1
Johnson & Johnson A-16
Justi & Son, Inc., H. D. A-68

Lauer Metal Shop A-23
Lea & Febiger A-9
Lederle Laboratories A-15

Merck & Company, Inc. A-4
Merck Sharp & Dohme A-12
Mid-Atlantic Dental Conference A-38
Mosby Co., C. V. A-6

Nobilium Products, Inc. A-7

Paragon Electric Company A-32
Permadent Products A-33
Pfingst & Co., Inc. A-55
Physicians Casualty & Health Assn. A-46

Quaker Oats Company A-21

Richmond Dental Cotton Co. A-29
Ritter Company, Inc. A-5
Rower Dental Mfg. Co. A-39

Squibb & Sons, Division of Mathieson Chemical Corp. A-27
Stocker & Yale, Inc. A-23

Ticonium A-24
Torit Mfg. Co. A-43

Vernon-Brenshoff A-44

Weber Dental Mfg. Co. A-70
Wernet Dental Mfg. Co., Inc. A-64, A-65
White Dental Mfg. Co., The S. S. A-23
White Dental Mfg. Co., The S. S. A-10, A-11
Wyeth Laboratories A-41

Year Book Publishers, Inc., The A-20

when
your patient needs
gentle sedation

NEMBUTAL®
ELIXIR

With gentle-acting NEMBUTAL Elixir, sedation is as mild or as profound as you like. Both effect and duration are readily adjusted by dosage. And next day "hangover" is rare, because the drug is rapidly and completely destroyed within the body—usually in less than six hours.

Regardless of how it's administered—whether straight from the spoon or mixed with milk, formula, water or juice—NEMBUTAL Elixir is a pleasant, *always gentle,* sedative. Each pleasant teaspoonful equals 15 mg. (¼ gr.) of NEMBUTAL Sodium.

Abbott

608193

® Pentobarbital, Abbott

NEW Backing

Steele's AG

ALL GOLD
including the post

Preserves The ESTHETICS of Steele's Teeth

Steele's new AG (all gold) backings are made from a new and revolutionary gold alloy, especially color-balanced to prevent the dark gray incisal discoloration of the cemented tooth. The AG backing preserves the *original colors* of Steele's New Hue facings and Trupontics.

The gold alloy used in these new backings has *additional important advantages:—*

Never Becomes Embrittled

Any reliable investment can be used; and the burn-out will be equally satisfactory in either a gas or electric furnace. The AG backing will not oxidize at normal burn-out temperatures.

Gives you Perfect Castings With More Certainty

One of the most striking features of the AG backing alloy is its remarkable affinity for casting golds and solders. This property renders a marvelous union of backing to gold.

The Most Versatile Backing Ever Offered
Available from your dealer NOW

Steele's®

The Columbus Dental Manufacturing Co., Columbus 6, Ohio

First Announcement of an Especially Important

New Guide for the Dental Practitioner

CHERASKIN & LANGLEY'S

DYNAMICS OF ORAL DIAGNOSIS

By E. CHERASKIN, M.D., D.M.D., Associate Professor of Dentistry and LEROY L. LANGLEY, Ph.D., LL.B., Associate Professor Physiology, University of Alabama School of Dentistry. Approx. 500 pages; 545 illustrations on 316 figures.

This new book is keyed to the current trend in dental education and practice; namely, to develop a more complete knowledge of the *patient as a whole* and to apply this knowledge more effectively to specific dental care, both preventive and curative.

As the authors state: "It is myopic and ineffectual to seat a patient in the chair and to proceed immediately with the oral examination . . . a more rational approach is to stand back and observe the patient as a truly living entity."

This book is, therefore, divided into two sections: **(1) Oral Medicine,** which groups approximately 200 diseases according to etiological factors; **(2) Oral Diagnosis,** providing a comprehensive coverage of each step of diagnostic procedure, both general and special.

Thus, through a deeper, more rounded understanding of oral disorders and disease conditions exhibiting significant oral manifestations, the dental practitioner is thoroughly advised on the broadening diagnostic responsibilities synonymous with today's highest standards of dental practice.

Through more logical organization, greater emphasis on the patient, more extensive knowledge of diseases in general, plus more intensive training in the use of all established diagnostic techniques, Doctors Cheraskin and Langley have indeed produced a quick-reference manual of rare value to the practicing dentist. You are invited to use the coupon below to request an approval copy.

Year Book PUBLISHERS

The Year Book Publishers, Inc.
200 E. Illinois St., Chicago 11, Ill.

Please send for 10 days' examination.

☐ *Cheraskin & Langley's Dynamics of Oral Diagnosis*

Name..... Street.....

City..... Zone..... State.....

JADA 8-56

The Protein Contribution of Oatmeal

Oats are richer in protein than other cereal grains commonly used for breakfast food purposes.[1]

Milled to retain all parts of the hulled oat kernel, rolled oats contain the protein of the germ and the outer seed layers as well as that of the inner cells.[2] Neither the commercial processing of oats nor the cooking of oatmeal in the home impairs the biologic value of the constituent protein.[3,4]

Experimental studies have established that the protein of oats is of higher biologic value than that of other grains.[5,6]

As eaten, the dish of oatmeal—1 ounce of oatmeal (weight before cooking) and 4 ounces of whole or skim milk—presents approximately equal amounts of oat protein and milk protein. This combined protein, readily applicable for all protein needs, supports excellent growth as well as tissue maintenance.[2,7]

DENTAL AUTHORITIES stress the importance of optimal nutrition in the aim toward better dental health during the early growth years. Oatmeal, with its wealth of essential nutrients, not only contributes broadly to good nutrition, but—since its carbohydrate is not readily degraded to simple fermentable sugars—is of virtually no cariogenic influence.

1. Watt, B. K., and Merrill, A. L.: Composition of Foods—Raw, Processed, Prepared, Washington, D. C., United States Department of Agriculture, Agricultural Handbook No. 8, 1950.
2. Sherman, H. C.: Chemistry of Food and Nutrition, ed. 8, New York, The Macmillan Company, 1952, p. 598.
3. Facts on Oats: Report by the Research Laboratories of The Quaker Oats Company, 1955.
4. Stewart, R. A.; Hensley, G. W., and Peters, F. N., Jr.: The Nutritive Value of Protein. I. The Effect of Processing on Oat Protein, J. Nutrition *26*:519 (Nov.) 1943.
5. Jones, D. B.; Caldwell, A., and Widness, K. D.: Comparative Growth-Promoting Values of the Proteins of Cereal Grains, J. Nutrition *35*:639 (June) 1948.
6. Jones, D. B.: Sex Differences in the Growth of Young Rats and Survival of Adult Rats Fed Protein-Deficient Diets, J. Nutrition *44*:465 (July) 1951.
7. Sherman, H. C.; Winters, J. C., and Phillips, V.: Efficiency of Oat Protein in Adult Human Nutrition, J. Biol. Chem. *39*:53, 1919.

The Quaker Oats Company
CHICAGO

Which of these Army Dental Programs is for You?

BOTH OFFER TOP TRAINING, FINANCIAL SECURITY

FOR STUDENTS

The Army Senior Dental Program

You can start your senior year at dental school with the full pay and allowances of a commissioned Army officer—over $4,000 a year. You'll complete your schooling under Army sponsorship—free from financial worries.

Upon graduation, your active service as an Army Dental Officer will give you broad practical experience, the chance for advanced study, promotion, increased pay and exciting foreign travel.

FOR GRADUATES

Army Dental Internships

Army internships are awarded to a limited number of qualified dental seniors and graduates each year. ADA-approved, they provide for a 12-month advanced, rotated training program in every major dental specialty. Intern at Army expense—with the rank, pay and prestige of an officer.

For full details, mail this coupon today to Commanding General, your Army area, Attention: Army Medical Service Personnel Procurement Officer, or see your dean.

U. S. ARMY DENTAL CORPS

AD56-4

Attention: Army Medical Service Personnel Procurement Officer

Please send me the full details on:

☐ Army Senior Dental Program
☐ Army Dental Internship Program
(Check one or both)

Name _____

Address _____

City _____ State _____

School _____ Date of Grad. _____

S·S·White

ORALINE MOUTH WASH

HANDY PLASTIC BOTTLE

for professional use

★ Easy to store and use.
★ Won't clog spray bottle. No waste.
★ Concentrated. Makes 2 gals.
★ Contains no metallic salt or irritating drug.
★ Patients like its invigorating flavor.

Use at the chair • Prescribe for home use • Order from your salesman

The S. S. WHITE DENTAL MFG. CO., 211 So. 12th St., Phila. 5, Pa.

FREE! Dental prescription pads. Write on Professional Letterhead.

NECESSARY

for dentists and dental laboratories

Illuminated Magnifier for close accurate work. Adjustable arms and heavy cast base make it adaptable to all phases of laboratory work. High intensity, cool fluorescent light directed where you want it.
Dentists, laboratory technicians save valuable time, do a better job in fitting, finishing, burring, polishing. Unconditionally guaranteed. Order direct. Immediate shipment Parcel Post Paid. Send Check or Money Order for $29.50.

Stocker & Yale INCORPORATED
77 GREEN STREET
MARBLEHEAD, MASS.

SOLID BRONZE NAME SIGNS

Cast, raised letters, drilled, with screws

3" x 12" — $12.60	3" x 14" — $14.70	3" x 16" — $16.80
4" x 14" — $19.60	4" x 16" — $22.40	4" x 18" — $25.20
5" x 16" — $28.00	5" x 18" — $31.50	5" x 20" — $35.00
6" x 18" — $37.80	6" x 20" — $42.00	6" x 25" — $52.50

Other sizes 35c per sq. in. Minimum, $7.00. Signs with wording on both sides 60c per sq. in.
COLLECT PLEASE SEND CHECK WITH ORDER

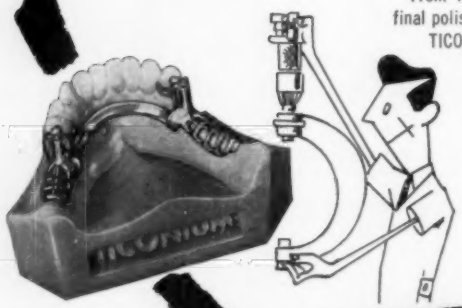
LAUER METAL SHOP • 1516 E. Baltimore Street • Baltimore 31, Md.

"how
ACCURATE
can you get?"

Think of the last partial that you slipped into a patient's mouth — one that went right into place with a minimum of adjustment.

TICONIUM cases are **CAST** to **FIT** that way!

From refractory model to final polish, every step in the TICONIUM technique is planned to FIT. AND THERE ARE NO PLIERS (for fitting) IN THAT PLAN!



TICONIUM
413 No. Pearl St., Albany 1, N. Y.

TICONIUM CASES
FIT EVERYTIME!

Readers in 65 Countries Acclaim

DENTAL ABSTRACTS

Published by the American Dental Association at the low annual subscription price of $6 for U.S. subscriptions, and $7.00 abroad. Each monthly issue contains approximately 90 abstracts and eight illustrated digests, selected from 350 dental and allied journals published in 50 countries.

Here is what readers are saying:

"I was very impressed with the extensiveness and scope of the coverage."—*Officer, Massachusetts Dental Society*

"The abstracts are comprehensive enough to give the reader a firm grasp and knowledge of the article abstracted."—*Past President, A.D.A.*

"Congratulations on the balanced presentation and the marvelous scientific contents."—*Dental Editor, Colombia*

"Intelligently conceived, easy on the eyes and well written."—*N. K., Brooklyn*

"It is going to fill a long felt need."—*Professor, Edinburgh, Scotland*

"Just what we need down here in order to keep abreast of the literature."—*I. S., Port-of-Spain, British West Indies.*

"My congratulations on DENTAL ABSTRACTS."—*B. N. O., Oslo, Norway*

"The selection of articles published is excellent."—*Professor, Zurich, Switzerland*

AMERICAN DENTAL ASSOCIATION, Subscription Department
222 East Superior Street, Chicago 11, Illinois

Please enter my subscription to DENTAL ABSTRACTS for one year. My check is enclosed.*

Name .....

Address .....

City, zone and state .....

*Subscription rate is $6 in U.S., $7 abroad.

ORALLY SPEAKING...

CITRUS IS

SAFE

AND

SOUND

"Daily consumption of 8 ounces of orange juice . . . does not increase susceptibility to dental caries . . . does not cause erosion of the dental hard tissues . . ."[2]

"Persons consuming . . . 8 ounces daily of orange juice had less gingival pathology and less alveolar crest bone degeneration than . . . those who refrained from citrus fruit ingestion . . ."[2]

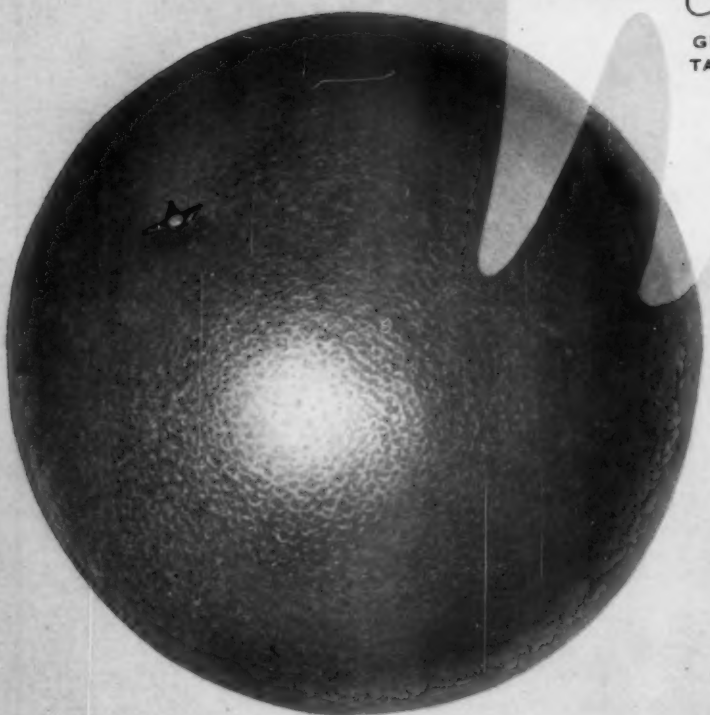
"Citrus fruits . . . help to maintain the health of the gingiva and are necessary for the health of the capillaries . . . and for proper bone growth."[1]

1. Am. Dent. Assoc.: Diet and Dental Health. 1954, p. 8.
2. Thomas, A. E.: Oral Surg., Oral Med. & Oral Path. 7:741-749, 1954.

Florida Citrus Commission, *Lakeland, Florida*

FLORIDA *Citrus*

ORANGES
GRAPEFRUIT
TANGERINES



clinically proved as adjunctive therapy in common dental infections[1-13]

in dosage of just 1 or 2 tablets three times daily

and is far less costly than other penicillin salts

Pentids

Squibb 200,000 Unit Buffered Penicillin G Potassium Tablets

Recommended dosage:
1 or 2 Pentids Tablets three times daily without regard to meals.
Bottles of 12 and 100 tablets.

℞
Pentids Tabs.
Disp: #12
Sig: 1 tablet.
t.i.d.

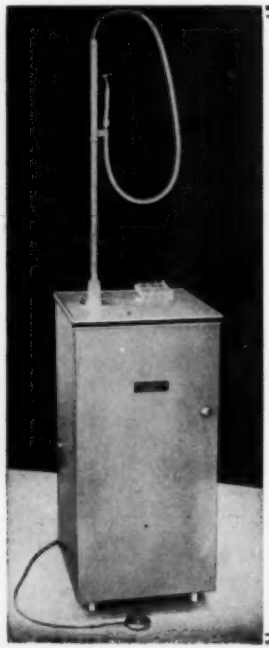
References: **1.** Glasser, M. M., New York J. Dentistry 25:229, June-July 1955. **2.** Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association, Circulation 11:317, Feb. 1955. **3.** Grimm, D. H. and Albertson, G. L., J. Calif. State Dental Assoc. and Nevada State Dental Soc. 30:300, Sept.-Oct. 1954. **4.** Glickman, I., Clinical Periodontology, Philadelphia, W. B. Saunders Co., 1953, p. 839. **5.** Goldman, H. M., Periodontia, 3rd ed., St. Louis, C. V. Mosby Co., 1953, p. 701. **6.** Beube, F. E.; Periodontology, New York, Macmillan Co., 1953, p. 417. **7.** Ostrander, F. D., J.A.D.A. 46:139, Feb. 1953. **8.** Council on Dental Therapeutics, J.A.D.A. 45:212, Aug. 1952. **9.** Dobbs, E. C. and Eskow, A. B., New York J. Dentistry 21:458, Dec. 1951. **10.** Keefer, C. S., Postgrad. Med. 9:101, Feb. 1951. **11.** Thoma, K. H., Oral and Dental Diagnosis, 3rd ed., Philadelphia, W. B. Saunders Co., 1949, p. 357. **12.** Ziskin, D. E., Kutscher, A. H. and Clark, A. R., J.A.D.A. 35:627, Nov. 1947. **13.** Woofter, A. C. and Hoffman, O. E., J. Iowa M. Soc. 35:189, May 1945.

Vincent's disease / pericoronitis / alveolitis / dento-alveolar abscess / cellulitis / prophylaxis against secondary infection

SQUIBB

Squibb Quality—the Priceless Ingredient

"PENTIDS"® IS A SQUIBB TRADEMARK



KERN

TURBO-JET

Patent Applied For

A Hydraulic Turbine Contra Angle Handpiece*

- **45,000 RPM**—for fast cutting
- **LOW TORQUE**—for safety
- **HYDRAULIC DRIVE**—no vibration
- **PLASTIC BEARINGS**—no lubrication
- **LIGHT CUTTING PRESSURE**—patient comfort

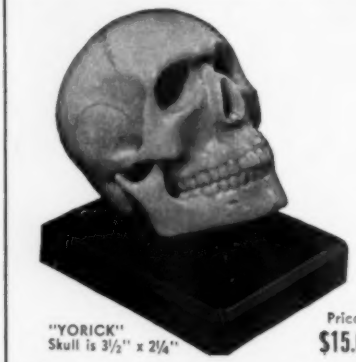
Self-contained unit—just plug it in
Contra Angle—no gears

Information may be obtained through your dealer or write direct to

BOWEN & COMPANY, INC.

P. O. Box 5818
Bethesda 14, Maryland

*JADA Vol. 47, P. 324-329, Sept. 1953. NELSEN, R. J., D.D.S.; PELANDER, C. E.; KUMPULA, J. W.: Hydraulic Turbine Contra Angle Handpiece. (Reprint on request)



"YORICK"
Skull is 3½" x 2¼"

Price
$15.00

With This Miniature Ivorine Skull You Can SHOW Patients What You're Talking About

Invaluable In Educating Patients to Accept Your Concepts of Advanced Dental Service. Suggestions on Its Use Accompany Skull.

If you do not have our Catalog No. 33, write for your copy today.

COLUMBIA DENTOFORM CORPORATION
"The House of A Thousand Models."
133 East 23rd Street New York 10, N. Y.

Invincible's exclusive concealed safe unit

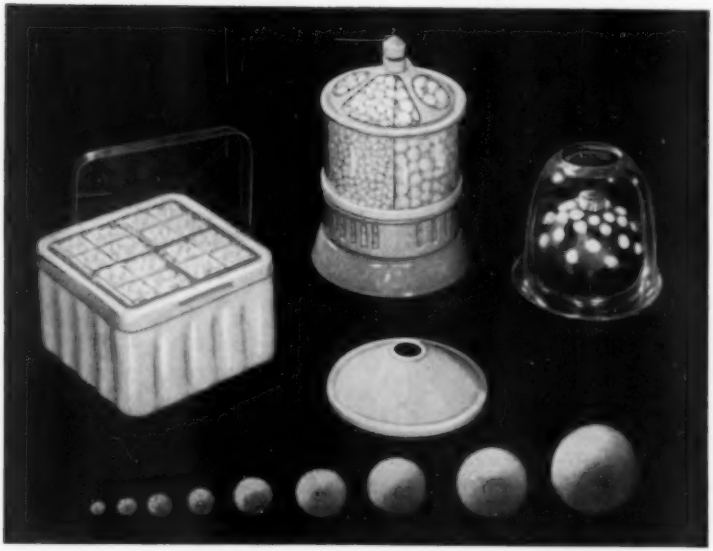
Maximum protection for valuable papers, confidential records, narcotics, drugs — keeps them available only to you and your associates.

Variety of sizes
Invincible Filing Cabinet with safe unit. Desk-high, counter-high, four-drawer sizes. Letter or legal size. Optional general lock.

See your dealer or write

INVINCIBLE

INVINCIBLE METAL FURNITURE COMPANY
Manitowoc, Wisconsin



absorbent cotton pellets

In 9 Sizes from 1/8 In. to 1 In.

and pellet dispensers

Snow white, *absorbent* cotton pellets are a necessity on your bracket table. No need to pause, to free both hands, to change position every time you need a pellet.

We've done the mechanical operations—have spun out and rolled up the finest absorbent cotton fibres into uniform balls, *not in 2 but in 9 different sizes from ⅛" to 1"*. Reach for just the size you wish during any operation; there's no loss of time when ready-rolled pellets of the right size are instantly at your tweezer tips.

As a further aid—we manufacture and supply (in 3 designs) small, convenient pellet dispensers which hold any four sizes of pellets—always handy, always ready for use.

Both pellets and dispensers are extremely economical and both will save time and temper. Ask your dealer for details or write directly to

RICHMOND DENTAL COTTON COMPANY
BOX 2176 • CHARLOTTE 1, NORTH CAROLINA

"Manufactured Where Grown"

announces the

Dental Aptitude Test

for admission to 1957 Dental School Classes
will be given on

OCTOBER 5-6, 1956
(application must be received by September 21)

JANUARY 18-19, 1957
(application must be received by January 4)

APRIL 26-27, 1957
(application must be received by April 12)

Sponsored by Council on Dental Education of the American Dental Association

Applicants should contact any of the dental schools listed for copies of the brochure, THE 1957 DENTAL APTITUDE TESTING PROGRAM, and for application blanks to take the tests.

Dental schools

ALABAMA
School of Dentistry
University of Alabama
1919 7th Avenue, South
Birmingham 5, Alabama

CALIFORNIA
School of Dentistry
College of Physicians and Surgeons
344 Fourteenth Street
San Francisco 3, California

College of Dentistry
University of California
University Medical Center
San Francisco 22, California

School of Dentistry
University of Southern California
925 West Thirty-fourth Street
Los Angeles 7, California

School of Dentistry
College of Medical Evangelists
Loma Linda, California

DIST. OF COLUMBIA
School of Dentistry
Georgetown University
3900 Reservoir Road, N.W.
Washington 7, D. C.

College of Dentistry
Howard University
600 W. Street, N. W.
Washington 1, D. C.

GEORGIA
School of Dentistry
Atlanta-Southern Dental College
Emory University
106 Forrest Avenue, N.E.
Atlanta 3, Georgia

ILLINOIS
Chicago College of Dental Surgery
Loyola University
1757 West Harrison Street
Chicago 12, Illinois

The Dental School
Northwestern University
311 East Chicago Avenue
Chicago 11, Illinois

College of Dentistry
University of Illinois
808 South Wood Street
Chicago 12, Illinois

INDIANA
School of Dentistry
Indiana University
1121 West Michigan Street
Indianapolis 2, Indiana

IOWA
College of Dentistry
State University of Iowa
Dental Building
Iowa City, Iowa

KENTUCKY
School of Dentistry
University of Louisville
129 East Broadway
Louisville 2, Kentucky

LOUISIANA
School of Dentistry
Loyola University
6363 St. Charles Avenue
New Orleans 18, Louisiana

MARYLAND
Baltimore College of Dental Surgery
The Dental School
University of Maryland
618 West Lombard Street
Baltimore 1, Maryland

MASSACHUSETTS
Harvard School of Dental Medicine
25 Shattuck Street
Boston 15, Massachusetts

School of Dental Medicine
Tufts University
136 Harrison Avenue
Boston 11, Massachusetts

MICHIGAN
School of Dentistry
University of Detroit
630 East Jefferson Avenue
Detroit 26, Michigan

School of Dentistry
University of Michigan
Ann Arbor, Michigan

MINNESOTA
School of Dentistry
University of Minnesota
Washington Ave. and Union St., S.E.
Minneapolis 14, Minnesota

MISSOURI
Kansas City-Western Dental College
School of Dentistry
The University of Kansas City
1108 East Tenth Street
Kansas City 6, Missouri

School of Dentistry
St. Louis University
3556 Caroline Street
St. Louis 4, Missouri

School of Dentistry
Washington University
4559 Scott Avenue
St. Louis 10, Missouri

NEBRASKA
School of Dentistry
The Creighton University
26th and California Streets
Omaha 2, Nebraska

College of Dentistry
University of Nebraska
Lincoln 8, Nebraska

NEW JERSEY
The Dental School
Fairleigh Dickinson College
Teaneck, New Jersey

College of Dentistry
Seton Hall University
Jersey City Medical Center
Jersey City, New Jersey

NEW YORK
School of Dental and Oral Surgery
Columbia University
630 West 168th Street
New York 32, New York

College of Dentistry
New York University
209 East Twenty-third Street
New York 10, New York

School of Dentistry
University of Buffalo
3435 Main Street
Buffalo 14, New York

NORTH CAROLINA
School of Dentistry
The University of North Carolina
Chapel Hill, North Carolina

OHIO
College of Dentistry
The Ohio State University
Columbus 10, Ohio

School of Dentistry
Western Reserve University
2165 Adelbert Road
Cleveland 6, Ohio

OREGON
The Dental School
University of Oregon
809 Northeast Sixth Avenue
Portland 14, Oregon

PENNSYLVANIA
School of Dentistry
Temple University
3223 North Broad Street
Philadelphia 40, Pennsylvania

Thomas W. Evans Museum & Dental
Institute School of Dentistry
University of Pennsylvania
4001 Spruce Street
Philadelphia 4, Pennsylvania

School of Dentistry
University of Pittsburgh
Thackeray and O'Hara Streets
Pittsburgh 13, Pennsylvania

TENNESSEE
School of Dentistry
Meharry Medical College
Nashville 8, Tennessee

College of Dentistry
University of Tennessee
847 Monroe Avenue
Memphis 3, Tennessee

TEXAS
College of Dentistry
Baylor University
800 Hall Street
Dallas 10, Texas

School of Dentistry
University of Texas
6516 Freeman Ave.
Houston 4, Texas

VIRGINIA
School of Dentistry
Medical College of Virginia
12th and Clay Streets
Richmond 19, Virginia

WASHINGTON
School of Dentistry
University of Washington
Health Sciences Building
Seattle 5, Washington

WEST VIRGINIA
School of Dentistry
West Virginia University
Morgantown, West Virginia

WISCONSIN
School of Dentistry
Marquette University
604 North Sixteenth Street
Milwaukee 3, Wisconsin

The dental aptitude tests are administered in 49 other colleges and universities including Hawaii, Puerto Rico, Europe, and Japan.

JAPAN
DENTAL ASSOCIATION
FORMALLY INVITES
ESSAYISTS CLINICIANS
AND OTHER DENTISTS
TO PARTICIPATE IN THEIR BIENNIAL SCIENTIFIC MEETING

APRIL 28-29-30, 1957

TOKYO

The Board of Trustees of the American Dental Association has accepted an invitation from Dr. T. Kashima, Managing Director of the Japan Dental Association, for American essayists and clinicians to participate in their national convention in Tokyo next April. One complete day of the three day meeting is being turned over exclusively to the dentists from the United States.

Only 40 essayists and clinicians, plus a small number of other dentists who may not wish to make presentations, will be accepted in this group. Interested dentists should apply immediately.

The entire program including transportation, hotels, sightseeing, receptions, is being handled by the Institute of Pacific Seminars, the coordinating office in California which is responsible for all the arrangements involving American dentists and their families.

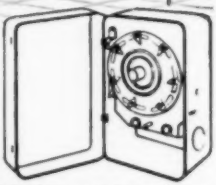
Besides the professional attractions of the program, numerous social and personal events are being arranged jointly by the Japan Dental Association and Institute of Pacific Seminars especially for this group.

FOR DETAILS, WRITE TO:

INSTITUTE OF PACIFIC SEMINARS

578 GRAND AVENUE
OAKLAND 10, CALIFORNIA

Make your window Air Conditioning completely automatic



. . . Turns ON before you arrive . . . Turns OFF when you leave

A pre-cooled office! A wonderful way to start the day. Just add Paragon 3760 series time switch and set to any daily or weekly schedule . . . eliminate weekend operation altogether. Your building electrician can install neatly and in minutes using your air conditioner cord. For units up to 1-ton, **$18.95** (120V) and **$19.95** (240V).

Send Coupon Now

PARAGON ELECTRIC CO., Two Rivers, Wis.
Enclosed is M.O. or check for $.....Send C.O.D. ☐
Send model ☐ (120v) ☐ (240v) ☐ Send more data.
Name.....
Address.....
City.....Zone....State.....

"Super Absorbent" COTTON ROLLS

These improved cotton rolls are a delight to the efficient dentist and are not harsh to the patient's mouth. They are actually spun from 100% pure surgical absorbent cotton to make them softer, more pliant and noncollapsible. They adapt easily into any position, are stretchable and small tufts are quickly detachable.

DENTAL ABSORBENTS CO.
619 East Montecito St.
Santa Barbara, Calif.

FREE SAMPLE Use Coupon

Gentlemen:
Please send me a free, generous sample of DENTAL ABSORBENTS.

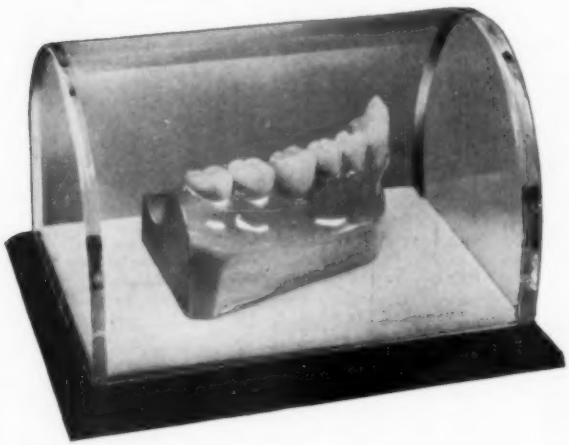
DR._____

STREET_____

CITY and STATE_____

Permadent Display Cases Assure Bridgework Contracts!

- Show your patients you can give them PERMANENT PORCELAIN instead of ordinary gold bridgework — at moderate cost. Help them visualize PERMADENT: The beauty and health of porcelain on ALL surfaces, including the ridge—combined with the strength and perfect fit imparted by the precious metal bonded to it underneath.



PREVIEWS OF SATISFACTION FOR PATIENTS

At Left: Display Case #2, a 3-unit posterior bridge on pink acrylic model with matched porcelain teeth, shown as packaged in its attractive lucite box.

Display Case #1 *(not shown)* is a 4-unit anterior.

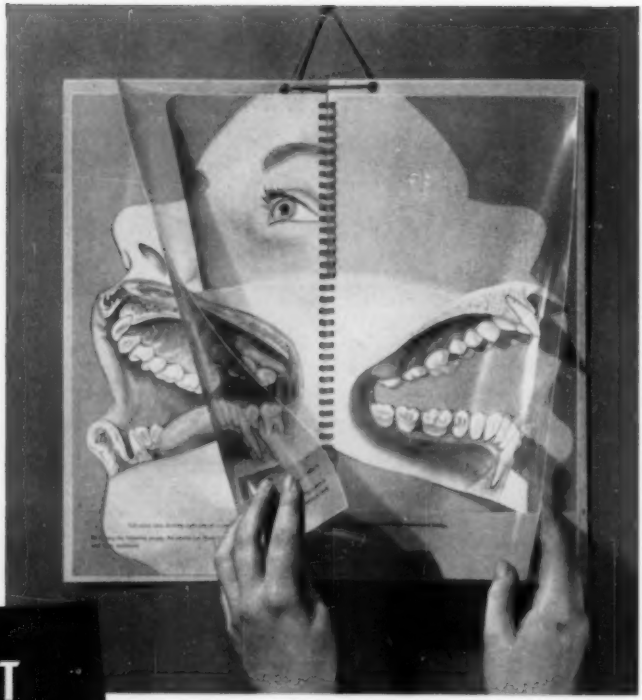
Display case #3 *(not shown)* features gold inlays connected to Permadent porcelain pontics.

Other types are available.

LOW COST PERMADENT DISPLAY CASES BUILD PRACTICES

Contact us for prices, description of other types of Display Cases and information on processing of Permadent restorations.

PERMADENT PRODUCTS
1780 Broadway, New York 19, N. Y.



PATIENT EDUCATION-ILLUSTRATED

A new aid to patient education by a new technic

Through the use of full-colored drawings on transparent plastic pages the dentist can, by superimposing the appropriate transparent page over the basic illustration of the head and mouth, quickly and clearly explain dental conditions to patients. *Patient Education-Illustrated* can be used as a wall chart or as a book. Used either way it does an impressive job for both dentist and patient. By all means add *Patient Education-Illustrated* to your library of dental health educational material. Produced by the Bureau of Dental Health Education of the American Dental Association it costs only $3.00. You can get a copy promptly by sending in your order today. Use the handy coupon below.

AMERICAN DENTAL ASSOCIATION ORDER DEPT., 222 E. SUPERIOR ST., CHICAGO 11

Please send me ..... charts (P-17) *Patient Education-Illustrated*. My remittance is enclosed.*

Name .....

Address .....

City..... Zone..... State.....

*THREE DOLLARS PER CHART

CLASSIFIED ADVERTISING

Forms close on 25th
of second month preceding month of issue

Remittance Must Accompany Classified Ads.

Classified advertising rates are as follows:
30 words or less—per insertion.....$4.00
Additional words, each..... .10
Answers sent c/o American Dental Association.....no extra charge
Replies to A.D.A. box number ads should be addressed as follows:
American Dental Association
222 E. Superior Street
Chicago 11, Ill. Box.....
Please be sure that the box number appears on the envelope.

PRACTICES AND OFFICES FOR SALE

CALIFORNIA—For sale. One man practice grossing $10,000 monthly in North Hollywood. 1955 gross $77,000. Leaving U.S. Will stay with buyer reasonable length of time. Terms available. Low rent; four chairs, Ritter equipped, 2 x-rays, 2 laboratories, private office, nurses' office, dark room, reception room, storerooms. Howard M. Stein, 6631 Laurel Canyon Blvd., N. Hollywood, Calif.

•

CALIFORNIA—Three chairs with private office, Hollywood area. Attractive and well equipped, intercom, wired music, parking. In nine-unit professional building. Terms if desired. Dr. John Rohrer, 1131 N. Vermont, Los Angeles.

•

CALIFORNIA—Santa Cruz County. Sell or lease with option. Home and office, two story, tiled roof, stucco building. Boulevard corner in shopping center of large, prosperous farming and railroad town. Has no professional services of any kind. Small down payment, balance like rent, 5% interest. Complete information address: Box 424, Capitola, Calif.

•

CONNECTICUT—For sale. Modern two-chair dental office near New York. Waiting room, business office and one operating room with Ritter G-unit newly furnished one year ago. Also dark room, lavatory, and complete laboratory. Will give option to purchase building with two other apartments. Owner leaving state. Address A.D.A. Box No. 362.

•

FLORIDA—For sale. Active practice. Fully equipped. Bungalow office building with parking lot. Price $40,000. Terms $10,000 down. Inquiries invited. Dr. George J. Parker, Box 565, Tarpon Springs, Fla.

•

FLORIDA—For sale. Two-chair dental office, air-conditioned, x-ray, furnished waiting room, instruments, forceps. Good location in professional building in Orlando, central Florida's fastest growing city. Ideal for recent graduate. Address A.D.A. Box No. 388.

•

FLORIDA—Fort Lauderdale. For sale. Well established practice. Modern two-chair office. Air-conditioned. Good location. Address A.D.A. Box No. 398.

FLORIDA—For sale. Completely and modernly equipped three-chair office. Three ton central air-conditioning unit. Ground floor location in downtown Miami. Low overhead. High percentage of prosthetics. Grossing $50,000 annually. Price $12,000. Can be financed with low down payment. Address A.D.A. Box No. 391.

•

FLORIDA—For sale. Completely equipped, one operating room office. Practically new equipment, low rent in growing lower east coast city. $5,000 cash or terms. Address A.D.A. Box No. 395.

•

ILLINOIS—For sale. Two-chair office, fully equipped, choice location. Selling because of recent death of prominent dentist, 55 years' practice. Very reasonable price and office rent. In beautiful Quincy, Ill. Growing population 45,000, only 22 dentists. Contact Marylyn King Cason, 2403 Maine St., Phone: Baldwin 2-1789.

•

INDIANA—For sale. Attractive two-chair, ground floor office in northern Indiana. Home combination. A very lucrative practice in ideally located section. Trained assistant available. Owner will introduce. Very liberal terms. Address A.D.A. Box No. 354.

•

MICHIGAN—For sale. Upper peninsula. Combined large Colonial home and office. Long established, fully equipped, two-chair office. Excellent lake front location in vacation land. Prosperous community of 13,000. Terms. Address A.D.A. Box No. 405.

•

NEW JERSEY—Office for sale. Booming south Jersey area. Population over 20,000. Two-chair office with new equipment. Established 20 years. $30,000 year practice minimum. Going into specialty. Address A.D.A. Box No. 262.

•

NEW YORK—For sale. Well established transferable practice, equipment. Beautiful modern custom-built model office. Medium large city, central part of state. Rock steady employment, depression proof. Excellent opportunity. Leaving state. Address A.D.A. Box No. 402.

NEW YORK—For sale. Excellent location: corner of congested business district, main thoroughfare, suburban Buffalo; fully equipped air-conditioned dental office. Unusual opportunity in fast growing community. Reasonably priced. Terms. Address A.D.A. Box No. 385.

•

NEW YORK—For sale. Dental suite, 80 Hanson Pl. In professional building. Two operating rooms. Dentist deceased. Write Mrs. H. F. Whalen, 80 Hanson Pl., Brooklyn 17.

•

NORTH DAKOTA—For sale. Well established general practice and equipment. Dentist recently deceased. In same location past 40 years. For details write Mrs. D. I. Halpern, Hebron, N. D.

•

OHIO—For sale. Two completely equipped dental offices in growing towns on Lake Erie, modern, air-conditioned. Owner entered military service. Write Emery S. Gielow, Realtor, Port Clinton, Ohio.

•

PENNSYLVANIA—For sale. Modern, completely furnished oral surgery practice in western Pennsylvania. Only surgeon in area. Excellent hospital arrangements. If qualified, can become Chief of Dental Service. Would be suitable for general practitioner with training. Address A.D.A. Box No. 394.

•

TENNESSEE—For sale. Office, two Ritter units, Weber x-ray. Industrial east Tennessee town, take up lease, downtown location. Priced for quick sale, $6,500. Dentist entering service. Address A.D.A. Box No. 393.

•

TEXAS—For sale. Two-chair office, established practice, modern building, new area downtown Houston. Population in excess of 30,000 within one block. Moving out of county because of other prevalent interest. Address A.D.A. Box No. 389.

•

TEXAS—For sale or lease. Well located near large hospital in area of many medical and dental clinics. Two story brick. Downstairs has two-chair dental office with laboratory and large reception room. Air-conditioned. Space for two more chairs, x-ray room and business office. Upstairs there are six very attractive rooms, newly decorated, suitable for living quarters or to rent out. Fort Worth, Texas. Address A.D.A. Box No. 401.

•

WASHINGTON—For sale. Active general practice in eastern part of state. Modern S. S. White equipment, good location. Will sacrifice for immediate sale. Owner will study specialty. Write Box 744, Colfax, Wash. Phone: Exbrook 7-3922.

WEST VIRGINIA—For sale. Located in center of chemical industries, along the beautiful Ohio River. Long established, centrally located, modern, two-chair office. X-ray, reception room, laboratory and business office; drawing population of 15,000. Address A.D.A. Box No. 373.

OFFICES FOR RENT

MASSACHUSETTS—Dental offices available, excellent location, $150. per month. Electric heat, water. Small building, first floor. Has photostat business and drive-in bank. Second floor, physician, attorney and dental offices. Dr. John J. Alifano, 924 Main St., Springfield, Mass.

•

NEW YORK—For rent. Dentist urgently needed for excellent location in professional building of growing town 50 miles from New York City. No other dentist in building. Box 1946, 221 W. 41 St., New York 36.

•

OHIO—For sale or lease. Opening for qualified workmanship. Population 20,000, drawing population 50,000. Area rapidly developing. Modern two-chair office grossing $35,000. Leaving practice in September to specialize. Write Dr. R. W. Smith, Room 322, First National Bank Bldg., Marietta, Ohio.

•

OREGON—Dental office space is available for lease. This is new construction just outside the congested business district on a main thoroughfare. There is parking on the lot. Owners will finish interior to tenant's specifications. Surgical-Dental Court, Roy Harland, Masonic Bldg., Salem, Ore.

•

PENNSYLVANIA — Harrisburg. Office for rent. Ideal corner location, six rooms. Has been prosperous dental office for ten years. Will rent with or without equipment. Address A.D.A. Box No. 368.

•

TEXAS—For rent. Dental office $40 per month. Waiting room, office, dark room, laboratory, two operating rooms. Occupied by dentist for 15 years. Good location across from postoffice. G. F. Vandever, 316 E. California St., Gainesville, Texas.

OPPORTUNITIES AVAILABLE

Dentists

CALIFORNIA—Southern. Pedodontist desires associate full time beginning October 1st. Excellent income. Dr. L. F. Parker, 6919 Magnolia Ave., Riverside, Calif.

•

INDIANA—Wanted. Two dentists. Preferably veterans. Group practice. Guarantee $20,000 gross, first year. Chance to buy into group. General practice. Give full particulars in first letter. Indiana license required. Address A.D.A. Box No. 364.

MASSACHUSETTS—Unusual opportunity for young dentist interested in pedodontics. Full-time position as director of dental clinic in new community Public Health Center in Brookline, Mass., with dental school teaching affiliation in children's dentistry. Salary $8,000 per annum. C. D. Marshall-Day, D.M.D., Ph.D., Dean, Tufts University, 136 Harrison Ave., Boston 11.

•

NEW JERSEY—Will build combination residence and dental office in one of the fastest growing areas of Monmouth County-Middletown community, off Route No. 35, Middletown, New Jersey. Address A.D.A. Box No. 404.

•

NEW YORK—Associate wanted in expanding practice approximately 90 miles from New York City. No financial outlay, immediate income. Give full information. Address A.D.A. Box No. 390.

•

OREGON—Dentist wanted. An attractive dental practice available in Umatilla, Ore. Trade area population about 15,000. A growing town with district hospital and fine physicians, but no dentists. Immediate practice assured. Office space available. For more information write to C. F. Golde, President, Umatilla Chamber of Commerce, Umatilla, Ore. Phone 719 or 731.

•

PENNSYLVANIA—Wanted associate for active practice, grossing $40,000, annually, in southeastern Pennsylvania. Applicant can progress to full partnership or purchase. Office operates with three chairs and two assistants. A definitely attractive opportunity. Address A.D.A. Box No. 392.

•

WASHINGTON—Dentists for foreign missionary work. Excellent opportunities, for qualified man in all parts of the world. For details apply to The Missionary Dentist, 5543 25th Ave., N. E., Seattle 5.

Hygienists

KANSAS—Topeka office. Beautiful, ultra-modern building and equipment. Send recent photograph and letter stating education and background. This is an unusual opportunity. John C. Carnes, D.D.S., 1703 Randolph, Topeka, Kan.

•

MICHIGAN—Dental hygienist. Kalamazoo Health Department. Salary $4,000. Assist dentist in public health dental program. Forty hour work week. Social security, hospital insurance, vacation, sick leave benefits. Write Director, Health Dept., City Hall, Kalamazoo, Mich.

NEW YORK—Dental hygienist, private office. Good salary, clubs, swimming, golf and sailing. 45 minutes from New York City. Dr. Frederick Kessler, 15 Purchase St., Rye, N. Y.

OPPORTUNITIES WANTED

Dental technician: Polish, age 38, fully qualified, immigrating to U.S. in autumn. Fourteen years' experience, specializes in prosthetics. Seeks position in the U.S.A. with a dentist, or dental laboratory. Business and social references furnished on request. Please write: Mr. F. Pawlisz, 138 Notting Hill Gate, London, W 11, England.

•

Florida licensed dentist, 1953 graduate with three years' excellent experience in private practice desires association with established general practitioner. Married, age 29, military obligations completed. Address A.D.A. Box No. 386.

•

General dentist—5 years' private practice. Desires foreign service. Will consider employment by industrial firm, institution, government, etc. Address A.D.A. Box No. 397.

•

California licensed, age 35, unmarried, desires association with older dentist in southern California area. Ultimate partnership or purchase. Engaged in successful private practice at present. Address A.D.A. Box No. 376.

•

Florida resident and licensee, 1954 graduate of Northwestern University, completing military obligations in October, desires association or other opportunity with established dentist in St. Petersburg—Clearwater—Sarasota area. Address A.D.A. Box No. 375.

•

Oral surgeon completing training May 1957. Six years' private practice, university graduate training and approved internship and residency including general anesthesia. Military requirements completed. Desires association with group or individual or good location for establishing private practice. Address A.D.A. Box No. 400.

•

Anesthetist-Dentist. Pennsylvania licensed. Ten years' nitrous oxide and ten years' thiopental sodium experience. Wants part-time association with busy general practitioner or exodontist. Will furnish all anesthesia equipment and supplies. Address A.D.A. Box No. 399.

•

Colorado licensed, graduate University of Pennsylvania, age 37. Excellent crown and bridge experience, surgical internship, and qualified anesthetist. Engaged in successful New York practice. Desires opportunity in Denver area. Address A.D.A. Box No. 403.

Oral surgeon available January 1957 desires association with well established oral surgeon or would purchase practice. Licensed in New York and New Jersey. Would take other Boards. One year graduate work school of medicine. Two years' oral surgery residency. One year fellowship, oral surgery and pathology. Military requirements completed. 1946 graduate. Address A.D.A. Box No. 384.

•

Florida. General practitioner, 17 years' experience, all phases, desires purchase active practice. Miami vicinity. Would consider association, ultimate partnership. Capable, personable, reliable, married, sober, draft exempt. Engaged in successful private practice, presently. Address A.D.A. Box No. 382.

WANTED TO BUY

Old or used dental books, journals, prints. Leo L. Bruder, 1 DeKalb Ave., Dept. 21, Brooklyn, N. Y. Dealer in out-of-print dental literature.

•

Wanted: Forceps, upper bicuspids, Cleve-Dent Nevius No. 1. Manufactured about 25 years ago. Condition of finish unimportant as long as forging is good. Reply to Dr. N. C. Brust, 302 Cameron St., Brush, Colo.

•

Wanted: **Ceramics in Dentistry,** by Cohen. Copyright Lea & Febiger, 1940. Write Paul E. Blickenstaff, sec.-treas., Oregon Association for Dental Research, 1735 N. E. 40th Ave., Portland, Ore.

FOR SALE

Ritter Model "E" Unit in excellent condition (base for exposed plumbing) $1,000. Old S. S. White pump chair $125. Both $1,050. Dr. W. C. Tinsley, Lynchburg, Va.

•

For sale. In good condition, Ritter unit, American cabinet, S. S. White chair, Castle light, compressor. Will sacrifice for quick sale. Dr. A. Levin, Greenport, L. I., N. Y. Phone: GR 7-0321.

•

For sale. One left handed S.S. White Master Unit, 1952 ivory-tan. Excellent condition. Now listed $1,675. Will sell for $900. at Blissfield, Mich. Dr. E. F. Kilchenman, Blissfield.

AFTER THE 1956 ANNUAL SESSION . . .

The MID-ATLANTIC
DENTAL CONFERENCE

October 7-10

in Beautiful BERMUDA!

Sponsored by . . . **BERMUDA DENTAL ASSOCIATION**

Under auspices . . **BERMUDA DENTAL BOARD**

★ Departing direct from Atlantic City October 5, immediately following the Annual Session

★ Three official trip itineraries from which to select

CONSULT YOUR TRAVEL AGENT OR

MID-ATLANTIC DENTAL CONFERENCE

c/o Lee J. Kirkland, Conference Coordinator
LEE KIRKLAND TRAVEL
1231 Baltimore, Kansas City 5, Missouri

A SUCCESSFUL RESTORATION

needs a perfect foundation

Pulpdent® LIQUID*

ROWER

Brand of CALCIUM HYDROXIDE SUSPENSION

Used as a cavity liner, Pulpdent (Rower) Liquid neutralizes cement acids and minimizes thermal shock, the two sources of pulpal irritation most commonly encountered in restorative dentistry. Pulpdent (Rower) Liquid adheres readily to cavity walls; does not interfere with the retention of cement and is truly an essential component of the perfect foundation necessary for successful restorations.*

Pulpdent® PASTE

ROWER

*U.S. Pat. No. 2,599,445

Brand of CALCIUM HYDROXIDE PASTE

Possesses all the properties of Pulpdent (Rower) Liquid as described above, plus the ability to aid in forming a secondary dentin barrier over exposed pulp tissue. Heavy, paste-like consistency facilitates its special use in vital pulpotomy and pulp capping.*

Group A Acceptance announced J.A.D.A. 50:334 (Mar.) 1955

ROWER DENTAL MFG. CORP. Boston 16, Mass., U.S.A.

*Bibliography and descriptive literature available on request.

PAGE Chayes HIGH SPEED CONTRA ANGLE

NO GEARS. FULLY BELT DRIVEN. ELIMINATES VIBRATION, WEAR AND LUBRICATION PROBLEMS WHICH ARE UNAVOIDABLE IN CONVENTIONAL GEAR DRIVES.

EQUIPPED WITH OWN WRIST JOINT, WHICH ATTACHES TO ARM OF ANY DENTAL ENGINE.

SIMPLE, EASILY CHANGED RUBBER CHUCK HOLDS BUR AND CUSHIONS IT AGAINST VIBRATION.

COMPLETE SET INCLUDES:
1 Page-Chayes Contra Angle, Model X-1 (for dual control) • 1 Air Filter and Valve Unit • 12 Carbide Burs • 12 Mounted Points • 6 Rubber Chucks • 1 Chuck Insertion & Removal Tool • Plastic Tongs • Tubing and Fittings for connection to Thermex Dual Control.

$300 Complete

Model X-2, for use with Fluidair (Ritter) and Tri-Jet (Nevam) complete with necessary connections, and accessories as above.

$335 Complete

1 VIBRATIONAL FREQUENCY BEYOND PATIENTS' SONIC THRESHOLD

Higher speeds with rotary instruments are a material aid in the control of trauma.

Clinical work indicates that somewhere between 90,000 and 100,000 RPM the patient loses ability to tell when tooth structure is being cut. At these speeds, the patient is vibrationally unaware of cavity preparation.

2 UNBELIEVABLE FREEDOM OF CUT

All who have used the Page-Chayes have been impressed by the ease with which difficult cavity preparations are accomplished . . . a result of the unbelievable freedom of cut which this instrument affords. The bur, running at these speeds, may be laid on the margin without any tendency to jump.

3 GREATER CONTROL THAN EVER BEFORE

The Page-Chayes Contra Angle provides a heretofore unobtainable "control". The Page-Chayes lets you operate with a "light as a feather" touch . . . lets the instrument do the work—resulting in more accurate cavity preparation with increased efficiency and less fatigue. Only 2 to 4 ounces of pressure is required.

Chayes

Literature and reprints upon request.

DENTAL INSTRUMENT CORP.

460 WEST 34TH STREET NEW YORK 1, N. Y.

PEN·VEE·*Oral**

Penicillin V, Crystalline (Phenoxymethyl Penicillin)

a new penicillin for efficient absorption by the oral route

For adjunctive *therapy* in penicillin-responsive oral infections. For adjunctive *prophylaxis* in oral procedures, especially in patients with a history of rheumatic fever, congenital or valvular heart disease, diabetes mellitus.

JOHN DOE, D.D.S.
℞ Tablets Pen-Vee-Oral
200,100 units
Disp: Tab. 20
Sig. 1 tablet every 4 hrs starting
1 day before operation & continued
for 4 days afterwards.

Wyeth

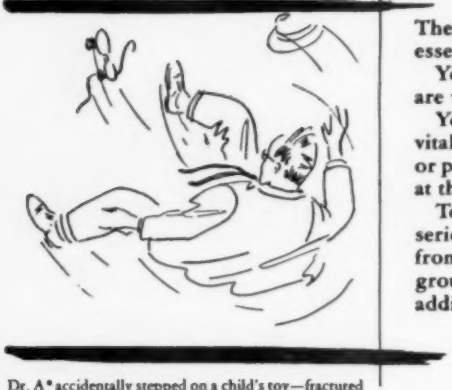
Philadelphia 1, Pa.

Supplied: Tablets, 200,000 units, scored, bottles of 36; 500,000 units, scored, bottles of 12.

*Trademark

"IT COULDN'T HAPPEN TO ME . . ."

BUT IT DID TO DR. A*. . .



The time you spend at the chair is the essence of your professional income.

You know what your operating hours are worth to you.

You can also figure readily your loss of vital income if accident or illness impair or permanently cut off your productive time at the chair.

To protect your earning power in case of serious disability causing extended absence from your practice, apply now for ADA group insurance. You will thus get the additional coverage you need.

Dr. A* accidentally stepped on a child's toy—fractured the knuckles of his right hand—later accidentally burned the bandage with a cigarette and permanently lost the use of all his fingers. Total payments under ADA insurance expected to be paid are $24,000.00.

Save 35 to 50 per cent of the cost of similar protection individually purchased.

For complete information regarding benefits, regulations and semi-annual rates, communicate with the Trustee of the Policy, Dr. Paul Zillmann, 29 Walden Avenue, Buffalo 11, New York or with M. A. Gesner, Inc., 150 East Superior Street, Chicago 11, Illinois.

Issued Exclusively by

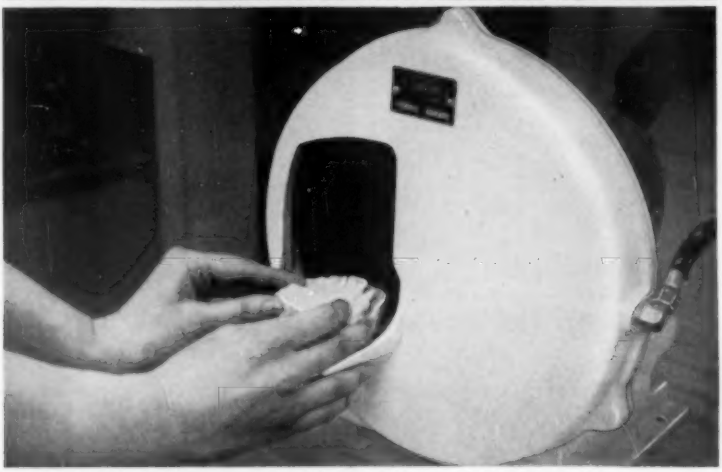
NATIONAL CASUALTY COMPANY of Detroit

Through

M. A. GESNER, INC.

216 East Superior Street WHitehall 3-1525 Chicago 11, Ill.

Since the National Casualty Company's plan of accident and health insurance has been in effect for many years in New York, New Jersey, California, Utah and Nevada, the Association Plan is not available in those states.



Torit makes the difference

. . . between a slip of the knife and complete safety!

A Torit Model Trimmer will protect your most valuable tools . . . your hands. You'll work faster too, and with more accuracy, whether the model is green, dry, stone or plaster. It's never a dusty operation. The water-washed grinding wheel always stays clean. There are two sizes from which to choose: the famous #30 and the junior size #29.

Torit makes the difference . . . and Torit makes many different products . . . articulators, investing, casting and soldering machines, furnaces, discs, valves and other dental equipment.

TORIT MANUFACTURING CO.

289 Walnut Street, Dept. 102, St. Paul 2, Minn.

Send for your FREE copy today!

—Just off the press

This NEW Crescent catalog is ready...Included is an illustration and description of *every* ARTICULATOR from the Crescent Line. Shown also are the accessories and articulator parts numbered for your convenience. A complete price list and handy order form comes with the 20-page brochure.

A copy will be mailed to you without obligation by return mail.

MAIL THIS COUPON TODAY

CRESCENT DENTAL MFG. CO.
1839 S. Pulaski Road • Chicago 23, Ill.

Please send Crescent Articulator Catalog to

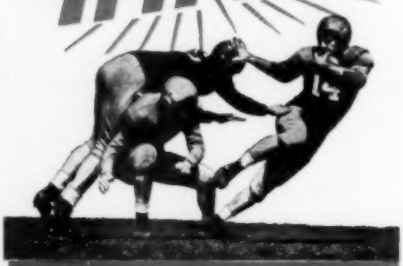
Dr. _____

Address _____

City _____ *Zone* ____

State _____

IMPAK



PROVIDING PROPER TOOTH PROTECTION FOR ATHLETES

Is this new phase of protective dentistry a part of YOUR practice —providing young athletes, engaged in contact sports, with IMPAK acrylic mouthpieces? Unlike former tooth guards, IMPAK protectors fit snugly, do not wobble or fall out. And being "tailor made," they impair neither speech nor breathing.

IMPAK protection is not hard to accomplish. Just take an upper impression, right over the natural teeth. Then your laboratory can process the mouthpiece, using IMPAK powder and liquid in the same manner as for making a full acrylic denture. Because it is made from an actual impression, the finished IMPAK mouthpiece will fit perfectly. It's as easy as that!

IMPAK is extremely rugged, yet lightweight. The wearer will be able to withstand sharp blows without chipping, breaking, or actually losing anterior or posterior teeth.

Investigate IMPAK! Do it now! There's a ready market waiting in schools and colleges. And in addition you'll be rendering a worthwhile service to your community and to the younger generation.

VERNON-BENSHOFF CO.
PITTSBURGH, PA.

For the Best in PROFESSIONAL TREATMENT

The more perfect the denture, the more highly it merits the uncompromising quality of Co-re-ga . . . its reliable enhancement of comfort and self-confidence . . . and its strictly ethical standards. The professional recommendation of Co-re-ga for nearly five decades testifies well to its devoted service to the best interests of the profession, by easing the difficult problems of adaptation.

CO-RE-GA

Co-re-ga is never advertised to the public

Accepted
AMERICAN DENTAL ASSOCIATION

Mail this coupon for your supply of professional samples

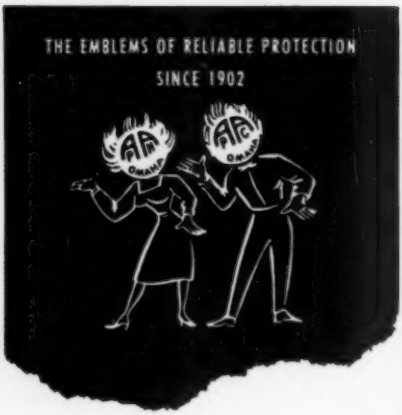
DR._____
Please print

ADDRESS_____

CITY_____ STATE_____

CO-RE-GA CHEMICAL CO.
76 MILL ROAD, JERSEY CITY 6, N. J.

Dept. 26-H



We cordially invite your inquiry for application for membership which affords protection against loss of income from accident and sickness as well as benefits for hospital expenses for you and all your eligible dependents.

all premiums come from → PHYSICIANS SURGEONS DENTISTS ← all benefits paid to

PHYSICIANS CASUALTY AND HEALTH ASSOCIATIONS
Omaha 2, Nebraska
$4,500,000 ASSETS
$22,500,000 PAID FOR BENEFITS

for caries-active patients

recommend non-cariogenic

Amurol®

Sugarless Mints

REFRESHING MINT FLAVOR!
Deliciously sweet, but free from sugar. Available through drug, department and health food stores.

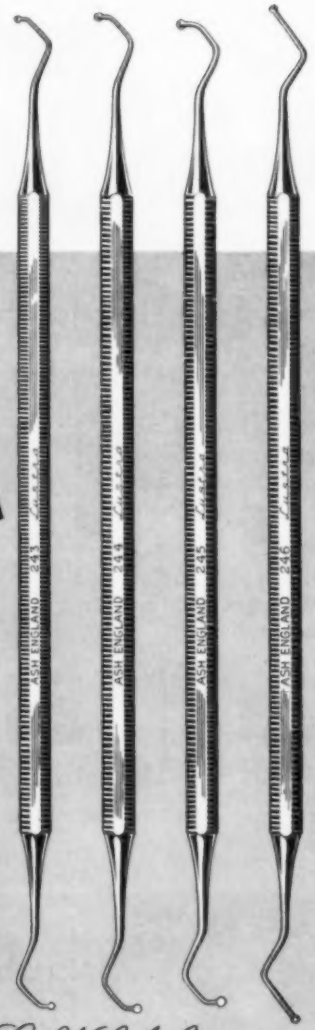
Samples and literature on request.
Please give druggist's name and address.

AMUROL PRODUCTS COMPANY
116 S. Michigan Ave., Chicago 3, Ill.

BUY

PERFORMANCE . . .
DEPENDABILITY . . .
QUALITY . . .

Ash
DENTAL INSTRUMENTS



- ✻ UNIFORMITY
- ✻ SUPERIOR CRAFTSMANSHIP
- ✻ EXACTNESS TO PATTERN
- ✻ FINEST STAINLESS STEEL
- ✻ SHARP CUTTING EDGES
- ✻ LASTING "LUSTRA FINISH"

Remember . . . .

There's an Ash instrument for every dental need. And remember, too, when you buy instruments, insist on genuine Ash instruments . . . look for the name "ASH ENGLAND" on the handle.

Claudius **Ash**, *Sons & Co., U.S.A., Inc.*
309 Main Street, Niagara Falls, N. Y.

Dentures of characterized LUCITONE

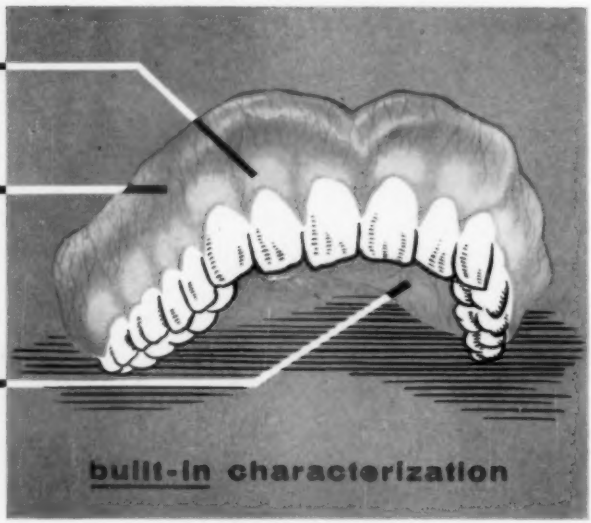
Good laboratories use this sticker to identify dentures of Characterized Lucitone

offer many advantages patients can see . . .

GINGIVAL TONE
in controlled areas over the necks of the teeth

VERTICAL FIBERS
simulate vascular appearance of labial and buccal surfaces

LENGTHWISE FIBERS
impart a lifelike appearance even in palatal areas



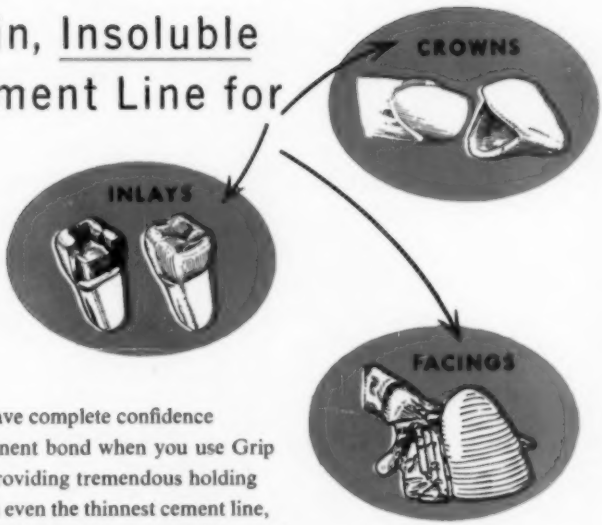
. . . and a unique advantage that cannot be seen:

traditional LUCITONE quality of material

Ask *your laboratory* why it prefers to finish your cases in characterized LUCITONE

For modern materials call on CAULK Milford, Delaware

A Thin, Insoluble Cement Line for



You can have complete confidence in a permanent bond when you use Grip Cement. Providing tremendous holding power with even the thinnest cement line, Grip Cement is ideal for crowns, inlays and facings of porcelain, gold, acrylic.

Grip Cement mixes easily and quickly. Allows ample working time. It is non-friable, uniformly radiopaque, an excellent thermal and electric insulator.

For modern materials call on

CAULK

Milford, Delaware

Grip CEMENT

When you mix Grip Cement on the Resinslab, simply tear off and discard the sheet on top . . . leaving a fresh, clean surface for your next mix.

Accepted by the American Dental Association as Sodium Bicarbonate U.S.P.

For over 50 years one of the leading tooth powders

FREE Children's Booklets →
We would like to send you children's booklets for your waiting room. They are approved by leading educators. Just write to us at the address below.

Church & Dwight Co., Inc.

70 Pine Street • New York 5, N.Y.

BUSINESS ESTABLISHED IN 1846

PHOSPHO®-SODA
(Fleet)

gentle · prompt · thorough

A modern laxative of choice...
as evidenced by
recent and continuing clinical evaluation.

A proven laxative...
as evidenced by professional recommendation
for over half a century.

Also makers of
FLEET® ENEMA
Disposable Unit

C. B. FLEET CO., INC.
Lynchburg, Virginia
Established 1869

Phospho®-Soda (Fleet) is a solution containing in each 100 cc., sodium biphosphate 48 gm., and sodium phosphate 18 gm.

Hotel reservation application

97th Annual Session
American Dental Association
Oct. 1-4, 1956
Atlantic City, N. J.

INSTRUCTIONS: Reservations for hotel accommodations may be secured for Atlantic City, N. J., by completing this application and mailing it to: A.D.A. Housing Bureau, 16 Central Pier, Atlantic City, N. J.

Be sure to indicate your arrival time in Atlantic City. Reservations will be held only until 6 p.m. of the day you indicate when you will arrive in Atlantic City unless special arrangements are made with the hotel.

Names of all persons who intend to occupy the accommodations must be listed on the application.

List four choices of hotels. Confirmation will be sent to the applicant indicating which hotel has accepted the reservation.

Write the A.D.A. Housing Bureau in Atlantic City if you wish to cancel the reservation.

A.D.A. HOUSING BUREAU • 16 CENTRAL PIER, ATLANTIC CITY, N. J.

(Please print or type) A.D.A.

Applicant:

Name_____

_____
(Street address) (City) (Zone) (State)

Arrival in Atlantic City_____ a.m. p.m. Leaving_____

Accommodations:

Hotel_____ Hotel_____
(First choice) (Third choice)

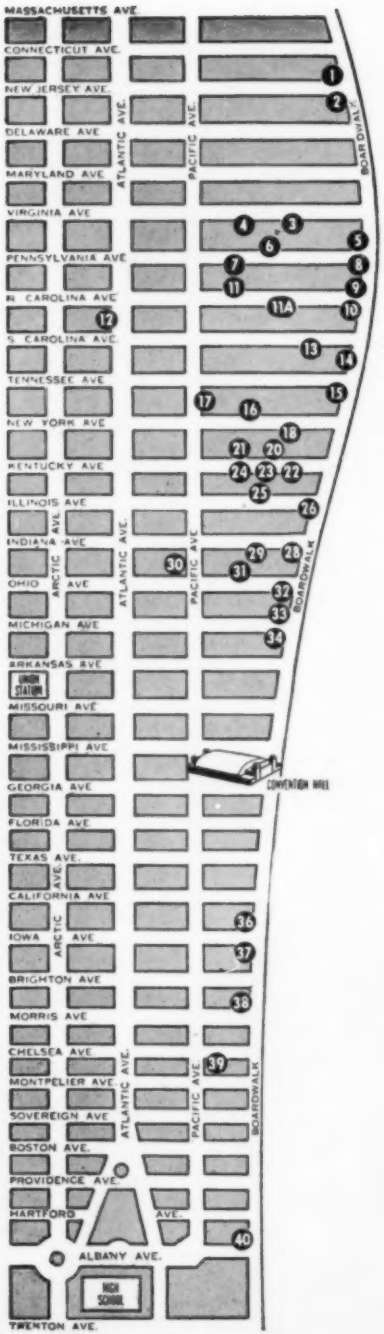
Hotel_____ Hotel_____
(Second choice) (Fourth choice)

☐ Single occupancy, rate to range from $_____ to $_____ per day.
☐ Double occupancy, double bed, rate to range from $_____ to $_____ per day. } 2 names must be listed below
☐ Double occupancy, twin beds, rate to range from $_____ to $_____ per day. }
☐ Suite of_____ rooms, including parlor, rate to range from $_____ to $_____ per day.

Occupants: (use an extra page for listing additional names if necessary)
Room will be occupied by:

_____
(Name) (Address) (City) (State)

_____
(Name) (Address) (City) (State)



HOTELS IN ATLANTIC CITY

Key No.	Hotel	Single	Double	Suite Room with Parlor
1	Breakers	$5.00–11.00	$ 7.00–18.00	
2	St. Charles	6.00–10.00	8.00–14.00	$24.00–28.00
3	Morton	6.00– 9.00	8.00–12.00	
4	Clarendon	5.00– 6.00	7.00	
5	Seaside	6.00–11.00	8.00–14.00	28.00
6	Holmhurst		7.00– 8.00	
7	Colton Manor	7.00–10.00	9.00–14.00	
8	Abbey	6.00–10.00	8.00–14.00	
9	Haddon Hall	7.00–11.00	10.00–23.00	36.00–44.00
10	Chalfonte	7.00–11.00	10.00–23.00	
11	Lafayette	5.00– 8.00	8.00–14.00	18.00–30.00
11A	Carolina Crest	5.00– 7.00	7.00–10.00	
12	Penn-Atlantic		7.00–10.00	
13	Senator	5.00–11.00	7.00–16.00	28.00
14	New Belmont	4.00– 5.00	6.00–10.00	
15	Mayflower	6.00–11.00	8.00–14.00	
16	Flanders	5.00– 6.00	7.00–10.00	
17	Columbus		6.00– 8.00	
18	Lexington	5.00	6.50– 8.50	
20	Monticello	4.00– 5.00	7.00	
21	Richfield-Boscobel	4.00– 6.00	6.00– 8.00	
22	Sterling	5.00– 7.00	8.00–10.00	
23	Jefferson	6.00– 8.00	8.00–12.00	
24	Kentucky	3.50	6.00– 7.00	
25	Madison	6.00–12.00	7.00–14.00	
26	Traymore	8.00–22.00	10.00–24.00	20.00–45.00
28	Claridge	7.00–15.00	11.00–19.00	36.00
29	Crillon		8.00–12.00	
30	Eastborne	5.00– 8.00	7.00–11.00	
31	Runnymede	4.00– 7.50	6.00–10.00	
32	Marlborough-Blenheim	7.00–10.00	10.00–20.00	26.00–40.00
33	Dennis	7.00–12.00	10.00–22.00	35.00–45.00
34	Shelburne	6.00–16.00	10.00–22.00	39.00–50.00
36	Ritz-Carlton	6.00–18.00	8.00–22.00	35.00
37	Ambassador	8.00–18.00	10.00–22.00	20.00–45.00
38	Chelsea	5.00–11.00	7.00–16.00	24.00–30.00
39	Mark	4.00– 7.00	6.00–10.00	
40	President	5.00–10.00	8.00–18.00	19.00–24.00

ATLANTIC CITY'S STREETS ARE 13 BLOCKS TO THE MILE INSTEAD OF THE USUAL 8.

COE-flex®

the only impression material

supplied with an adhesive

and a retarder

you will like using Coe-flex, the *only* rubber impression material on the market that is made to satisfy ALL of your requirements for taking impressions. First of all, it is easy to use; and *you* can regulate the setting time to satisfy your technic. Coe-flex Adhesive overcomes the difficulty of maintaining adhesion of the impression material to the tray whether you use metal trays, compound trays, or acrylic resin (Coe Tray Plastic) trays. No other material can equal its unique properties, its extreme accuracy, its dependable elasticity, its stability. It is agreeable to work with, does not have an unpleasant odor, is easy on the patient. AND its universal qualities make it ideal for impressions of crowns and inlays, complicated bridges, partial and full dentures. Together, these characteristics explain why Coe-flex is so rapidly becoming the most popular impression material anywhere.

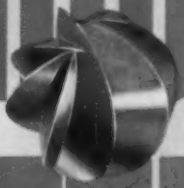
Order from your dealer

The Adhesive firmly attaches Coe-flex to compound, metal, or plastic surfaces

The Retarder assures control of setting time

COE LABORATORIES, INC.
CHICAGO 21, ILLINOIS

CUSHIONED CUTTING



. . . IN THE FULL RANGE OF OPERATING SPEEDS

You'll find Busch Bur balanced blade design . . . scalpel-sharp cutting edges . . . superior steel and precision manufacture, assure gentle "cushioned cutting" and swift reduction of tooth structure

BUSCH BURS

PFINGST & COMPANY, INC.

62 COOPER SQUARE • NEW YORK 3, N.Y.

BUSCH BURS · HORICO DIAMOND ABRASIVES · AJUSTO HANDPIECES · STAINLESS INSTRUMENTS

DU PONT DENTAL X-RAY NEWS

No. 4

HERE'S AN EASY-HANDLING FILM YOUR PATIENTS WILL LIKE!

Your patients aren't especially interested in the *kind* of dental film you use . . . that's something they leave up to you. But they do like the flexible Du Pont Packet. It has a soft, non-slip surface with rounded corners – really feels comfortable!

The wide latitude of Du Pont D-1 Dental X-Ray Film in the "Pull-A-Tab" Packet assures you of getting good radiographs even if your exposure is not right on the button. This latitude means fewer time-consuming retakes. And, when immediate diagnosis is necessary, you can cut developing time in half if you double the recommended exposure time . . . this way you'll be able to get a wet film reading just a few minutes after exposure.

Another thing – D-1 is a favorite in the darkroom, too! Just pull the tab . . . slide out the inner lining . . . and the film is ready to develop. There's never a chance of clipping foil or paper on the hanger with the film.

But you'll have to try out Du Pont D-1 for yourself to appreciate its special kind of convenience. Just drop us a card and we'll send you a free sample of this versatile film in the "Pull-A-Tab" Packet.

• • • •

YOUR DEALER will gladly show you our complete line of dental x-ray films and chemicals and help you select the film best suited to your special needs. Call for Du Pont Dental X-Ray Products by name . . . that's your assurance of finest quality.

HOW TO AVOID POOR RADIOGRAPHS WITH PROPER PROCESSING

If you ever had a radiograph turn out like the one above, you've probably already guessed the trouble. Extremely high processing temperatures not only fogged the radiograph, but caused the emulsion to start running off the film. Result – the radiograph is worthless!

During hot summer months, maintaining proper solution temperature is a serious problem in the dental darkroom. When developer temperature rises to 80°F., it's almost impossible to avoid chemical fog unless restrainer is added to the developer.

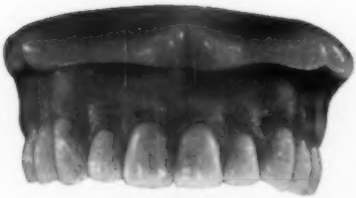
To alter the time-temperature ratio of Du Pont Dental X-Ray Developer and help eliminate fog, add 2½ ounces of sodium bicarbonate for each gallon of tank capacity. This permits increased developing times at high temperatures. To insure proper hardening, be sure your fixing solution is working properly. New fixer should always be prepared when *clearing* time exceeds three minutes.

We've prepared a booklet that helps you get good dental radiographs—called "Du Pont Guide for Dental X-Ray Darkrooms"—it's free of charge. Just drop us a card for your copy.

E. I. du Pont de Nemours & Co. (Inc.), Photo Products Dept., Wilmington 98, Del. *In Canada:* Du Pont Company of Canada Limited, Toronto.

DU PONT
REG. U.S. PAT. OFF.

Better Things for Better Living . . . *through Chemistry*



Specify BOOS *Ora-Pon* Reinforced Bridges

with new, exclusive gold backing design

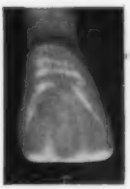
The life-like qualities of acrylic bridgework are brought out with this improved backing design.

As shown, the gold reinforcement forms an anatomically correct and abrasion-resistant lingual surface. To prevent the show of metal and to improve translucency at the incisal, the backings are built short of the incisal edge.

Because the anatomy and retentive elements of the bridge units are standardized and predetermined, Boos *Ora-Pon* Reinforced Bridges assure uniform strength, retention and natural lingual anatomy.

WHEN *Natural Appearance* COMES FIRST

Specify BOOS *Vacuum-Fired* Porcelain Jacket Crowns



Vacuum-firing with the new translucent porcelains produces a denser crown that simulates the natural teeth with unbelievable realism.

In constructing Boos Ora-Pon Reinforced Bridges and Vacuum-Fired Jacket Crowns, Boos Ceramic Craftsmen recreate the natural detail through tooth contour, bilateral symmetry and skillful blending of shades.

Let Boos processing skill help you satisfy the growing demand for this natural appearing dentistry. Send your next case to Boos. *All we ask is a trial.*

Mailing boxes, labels and instruction blanks available at no cost.

EST. 1902

HENRY P. BOOS DENTAL LABORATORIES, Inc.

808 NICOLLET AVENUE • MINNEAPOLIS 2, MINNESOTA

Branch Laboratories: *Medical Arts Building, Duluth, Minn.* • *Equitable Building, Des Moines, Iowa*

MISSION ACCOMPLISHED.....

Another of the more than 100,000,000 cartridges of Ravocaine HCl and Novocain with Levophed, which dentists have used in the last 3 years, has bestowed its blessing of fast, quick, sure — and well-tolerated — anesthesia on another patient. Your patients, too, will appreciate...

RAVOCAINE® HCl
Brand of propoxycaine HCl

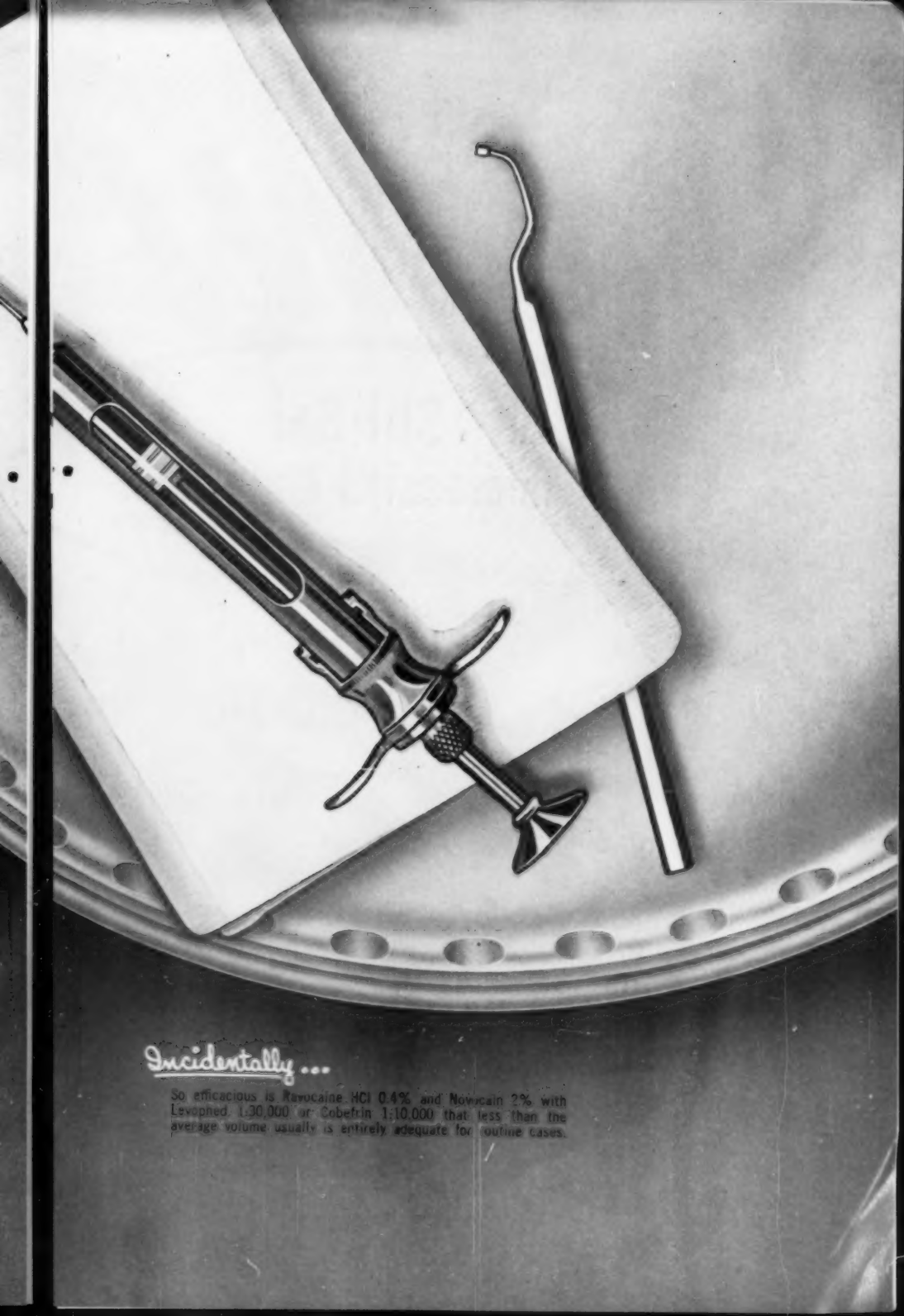
AND **NOVOCAIN®**
Brand of procaine HCl

with LEVOPHED® or COBEFRIN®

SO FAST · SO DEEP · SO SURE

Levophed brand of levarterenol. Cobefrin brand of [illegible]

COOK-WAITE Laboratories, Inc.
[illegible] BROADWAY, NEW YORK 18, N. Y.
® Reg. Trademarks [illegible]



Incidentally ...

So efficacious is Ravocaine HCl 0.4% and Novocain 2% with Levophed 1:30,000 or Cobefrin 1:10,000 that less than the average volume usually is entirely adequate for routine cases.

NEW!

Sili-Gel
Impression Material

it's Pink! Pleasant odor and taste. A new silicone elastomer with amazing properties.

An entirely new concept in Dentistry!

The FIRST completely different, UNIVERSAL material—from D-P, the PIONEER of all major developments in impression materials!

A silicone elastomer of amazing versatility!

The IDEAL material for ALL dental impressions!

A SENSATION WHEREVER SHOWN—ACCLAIMED BY ALL WHO HAVE USED IT—SILI-GEL OFFERS YOU THESE ADVANTAGES:

ABSOLUTELY NEW—a silicone elastomer which forms an irreversible gel that contains no moisture or any volatile substances.

EASILY MIXED on slab or pad, or in a plaster bowl.

PLEASANT odor and taste are especially important.

CLEAN TO USE—Sili-Gel wipes off hands and instruments with a dry cloth.

SETTING TIME can be controlled by the operator to suit any individual technic.

EXTREME ELASTICITY, combined with toughness of body, permits withdrawal over the most severe undercuts without fear of distortion.

POUR IMPRESSIONS WHEN YOU CHOOSE—Impressions may be stored dry indefinitely without sacrificing accuracy.

COPPER PLATING—Yes, no special technic required.

UNCONDITIONALLY GUARANTEED—

Order Sili-Gel from your Dental Dealer TODAY on our unconditional guarantee that you MUST be satisfied or receive a full refund.

Dental Perfection Co., Inc.

543 West Arden Ave., Glendale 3, California

THERE IS ONLY ONE

Aristaloy

LOOSE MICROGRANULES OR ONE-SPILL-PILLS

Aristaloy in One-Spill-Pills take no longer to amalgamate since they are the regular selected assortment of Aristaloy particles (with nothing added) lightly pressed together for quick, easy proportioning.

Each Pill requires one Spill of Mercury from the Baker Adjustable Dispenser.

Ask your Dealer for a Pre-Proportioned Combination 10 ounces of Aristaloy in One-Spill-Pills, complete with Mercury Dispenser.

Are you continually experimenting with new unproven alloys, while *proven* Aristaloy is conveniently available.

BAKER & CO., INC.

850 PASSAIC AVENUE • EAST NEWARK, N. J.

NEW YORK CITY 30 Church St. • CHICAGO 55 E. Washington Street • SAN FRANCISCO 760 Market Street

ENGELHARD INDUSTRIES

BAKER

THE WORLD'S LARGEST WORKERS AND REFINERS OF PRECIOUS METALS

EACH NEW DENTURE
IS A PROFESSIONAL
INVESTMENT IN FUTURE
PRESTIGE

Will your dentures still do justice to your meticulous workmanship

–Six months after?

Will your patient have cared for them properly – preserved their lustre and delicate molding? Will *you* still be proud of them, as representative of your prosthetic skill?

Your helpful instruction in the professionally approved method of denture cleansing, at the time of insertion, will help assure proper care – six months after, or six years after.

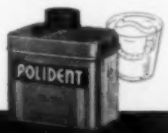
The "Easy" Way is the "Best" Way

The Polident "soak-and-rinse" method is so easy, so safe and gentle, yet so effective – it floats away debris, removes stains, and completely destroys all denture odors, without risk to fit and finish from harsh abrasive scrubbing or excessive handling.

Your patient ... and *your* prestige ... deserve the best!

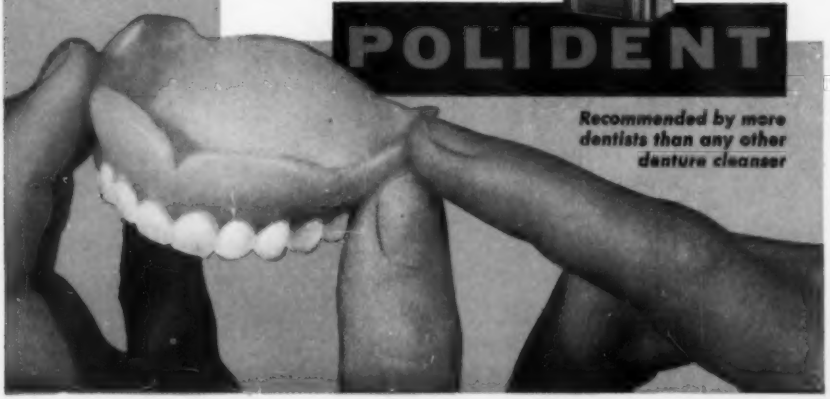
Write for generous supply of free office samples

HUDSON PRODUCTS
JERSEY CITY 2, N. J.



POLIDENT

Recommended by more dentists than any other denture cleanser



WHY BE A "PF" DENTURE VICTIM?

Why risk
Professional
Frustration
from patients'
Psychological
Failure?

How discouraging it can be: the denture is beautiful in appearance and perfect in fit—yet the patient persistently complains of discomfort and instability! When apprehension and awkwardness thwart adaptation, "psychological failure" can indeed be a problem for the dentist . . . and unnecessarily so!

For most "PF" patients, only a *little* more help may be all that is needed—as provided so readily by Wernet's Powder. Its soft, resilient cushion makes retention and stability seem so much easier, and adequate self-confidence so much more assured. The denture becomes more comfortable, too, through absorption and distribution of unaccustomed pressures on sensitive tissues.

Speeds the Mastery of the

WERNET'S POWDER

For the patient, such assistance may be actually indispensable—especially in the presence of anatomical or emotional difficulties. For the dentist, it's a gesture of sympathetic consideration . . . and a sound solution of his "PF" problem.

WERNET DENTAL MFG. CO., INC.
Jersey City 2, N. J.

Denture

REE PROFESSIONAL SAMPLES

ERNET DENTAL MFG. CO., INC., Jersey City 2, N. J.

lease send me professional samples of Vernet's Powder.

r. _____
(Please Print)

ddress _____

ity _____ **Zone** _____ **State** _____

1A-11

WERNET DENTAL LORE

August, 1956

Caius Plinius Secundus, the celebrated first-century author of the 37-volume "Natural History," was actually so unperceptive of natural phenomena that he believed that the dimming of a mirror "when the teeth are presented uncovered before it" was due to a poisonous substance that exists in the teeth, rather than merely to the vapor of the breath.

• • •

Although dental practice at the turn of the nineteenth century was at a relatively crude level (by present-day standards) . . . e.g., for cavity preparation only excavators, explorers and small hand drills were available; no antisepsis was employed; and no means existed for keeping the operating field dry except napkins and blotting paper . . . it is noteworthy that during that period gold fillings were not only perfected but actually became the type most commonly employed.

• • •

Unlike most early tooth-drawers who accomplished their extractions with expedition and a fine disregard of the patient's relatively brief distress, the disciples of the erudite Aulus Cornelius Celsus (Rome, first century A.D.) operated with exaggerated caution—and protracted aggravation—in order not to "dislocate the jaw" or "shock the temples and the eyes". First they would detach the gums all around, then (if the tooth were firm) shake it well until it was fully loosened, then pull it out—preferably with the fingers.

• • •

Many facts regarding *ancient* India's contributions to medicine and dentistry remain obscure. Even the life-dates of the great Hindu physician Susruta cannot be determined closer than sometime between 600 B.C. and 600 A.D. *Modern* India's contributions, by contrast, are clearly established – for instance, the effectiveness of its forest product Karaya Gum, which has been the principal ingredient of Wernet's Powder ever since its inception.

"IT'S ALL YOURS, BOB . . ."

Take a tip from an oldtimer. Get enough life insurance protection to look after those early years!

The Great-West Life's A.D.A. Group Life Plan is designed especially for you. It gives A.D.A. members under age 60 maximum protection at minimum cost at a time when family responsibilities are highest and income lower than it will be later on.

The plan provides $10,000 Basic Life Insurance Protection of $20,000 for Accidental Death at an annual premium of

- $30.00 to age 30
- $50.00 from ages 31 - 40
- $ 80.00 from ages 41 - 50
- $130.00 from ages 51 - 60

Conversion privileges and many additional advantages are available in this plan. For further details apply to:

A.D.A. Group Life Program
The Great-West Life Assurance Company
1035 Field Building
135 S. La Salle St., Chicago 3, Ill.

THE
GREAT-WEST LIFE
ASSURANCE COMPANY
HEAD OFFICE - WINNIPEG, CANADA

CAVITRON

Preferred by patients

Dentistry's gentle method for cavity and crown preparation – eliminates rotary motion, minimizes patient apprehension and pain.

Clinical reports on approximately 20,000 patients showed almost unanimous preference for Cavitron over other cutting methods.

Saves chair time

Cavitron's non-traumatic* cutting action makes anesthesia unnecessary in most cases, permits patients to tolerate more preparations per sitting. The precise, smooth cuts reduce instrument changes and finishing time. You do more productive work per sitting . . . handle more patients in your normal work week.

Makes better dentistry easier

The unique Cavitron combination – non rotary, feather-touch handpiece and the relaxed patients – assures reduced operating tension and fatigue . . . leaves you fresher at the end of the day.

* Zach, L., and Brown, G. N.: N.Y. State D.J., Jan. 1956
Zinner, D., and Whetstone, W.: J. Den. Child., Mar. 1956
Friedman, J., Lite, T. and Solomon, H.: N.Y.J. Den., Apr. 1956
Van Huysen, G., Healey, H. and Patterson, S.: U.S.A.F. Med. J., May 1956
Butt, B., Harris, N., Shannon, I. and Zander, H.: I.A.D.R. Abstracts, No. 34, 1956

See it at your local Cavitron dealer—or write for literature.

CAVITRON EQUIPMENT CORP. 42-26 28th Street, Long Island City 1, N. Y.

S-R PLUS AREA Teeth

JUSTI S-R TEETH ARE

Tough

Resilient

More Life-Like

Research

MAKES THE DIFFERENCE

Fundamental research, vigorously sustained, exclusively devoted to dental plastics is your assurance that Justi S-R teeth at all times are a continuing evidence of the production and control of the most reliable product attainable . . . scientifically, technically, esthetically.

No wonder they're in demand!

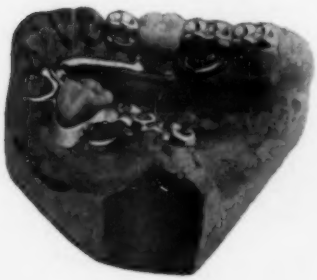
H. D. JUSTI & SON, INC.

Products for Better Dentistry

PHILADELPHIA 4, PA.

Restorative . . .

Corrective . . .



with

DRESCH REPLICAST* **Service**

The case illustrated is a type frequently seen. The second bicuspids and first molars were lost at an early age, and because of dental neglect, the vertical dimension was lost as the molars gradually tipped and drifted forward.

The restorative raised-bite appliance, also illustrated, shows the benefits of this dental health service. Not only was the badly impaired occlusion corrected, but this permitted the construction of an upper denture with a normal balanced occlusion.

Such results do not just happen. It is the planned cooperation with the dentist—the many years of Dresch experience in partial denture engineering—plus the precision Replicast casting methods that produces this outstanding prosthetic service.

Dresch Replicast service is just as close to you as your mail man. Send study casts for free estimates on your next case. Enhance the scope and prestige of your partial denture service. The Dresch Laboratories Company, 1009 Jackson St., Toledo 1, Ohio.

*REPLICAST—A Precision method—not a material.

DRESCH LABORATORIES

Quality Service since 1915

ANOTHER MEASURE OF DRESCH DEPENDABILITY

The *Complete* Unit . . .

Bright beauty in this slim, new model by WEBER

The "K" *Imperial*

SPECIAL FEATURES:

- Solenoid valve water control
- Satin chrome finish sub-base
- Perma-mold aluminum unit base
- 45° ultra hi-speed cord arm
- New, quicker heating warm air syringe
- Lower bracket table—41" from floor
- No-drip Bunsen burner wax tray
- Handpiece speeds in excess of 13,000 R.P.M.!

. . . and introducing the **"ULTRA COOLANT"**

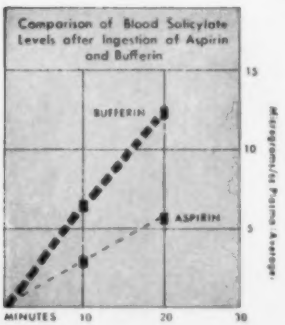
• Controlled by a foot-operated switch • Noiseless • Concentrated stream for better visibility—NO DRIP! • Increases patient comfort (. . . an "extra" easily attached to all Weber units. See your Weber dealer.)

Doctor, you have a RIGHT to expect more from WEBER!

The WEBER DENTAL MFG. CO.

CANTON 5, OHIO ***and dealers in major cities***

GIVE YOUR PATIENT FASTER PAIN RELIEF with BUFFERIN®



Relieve the pain attending dental treatment—whether extraction or cavity preparation—by recommending BUFFERIN. This antacid analgesic acts twice as fast as aspirin. In ten minutes after taking BUFFERIN the blood salicylate levels are higher than those attained with aspirin in twice the time.

Gastric distress is almost unknown when BUFFERIN is taken, even in large doses, for BUFFERIN is antacid.

Your patients will appreciate BUFFERIN's prompt antacid analgesic action.

BUFFERIN contains no sodium.

Accepted COUNCIL on DENTAL THERAPEUTICS AMERICAN DENTAL ASSOCIATION

BUFFERIN®

Acts Twice as Fast as Aspirin
Does Not Upset the Stomach

EACH BUFFERIN TABLET contains 5 grains of acetylsalicylic acid, together with optimum amounts of the antacids aluminum glycinate and magnesium carbonate.

BRISTOL-MYERS CO., 19 W. 50 St., New York 20, New York

good news!

The Important Advantages of the Exclusive TRUBYTE BIOFORM VACUUM FIRED PORCELAIN PROCESS Are Now Available to you in a Popular Selection of the Most Widely Used Moulds of TRUBYTE NEW HUE ANTERIORS

Now, ALL the many important advantages of Vacuum Fired Porcelain are available to you in a popular selection of Upper and Lower Trubyte New Hue Anterior Moulds. ALL of these advantages are yours when you specify Trubyte New Hue Vacuum Fired Anteriors.

- GREATER PORCELAIN DENSITY
- GREATER STRENGTH
- SUPERIOR GRINDING
- SUPERIOR POLISHING
- NATURAL, LIFELIKE SHADES
- IMPROVED PIN PLACEMENT
- MOULD SELECTION RANGE
- ACCURATE SHADE SELECTION
- SHADE HARMONY WITH POSTERIORS
- GREATER PATIENT SATISFACTION

Your Trubyte Dealer and Dental Laboratory now have available for you a complete selection of these new moulds in all shades.

Write for your copy of the illustrated chart of moulds and dimensions . . . and a Trubyte Bioform Shade Guide, too.

Ask your Trubyte Dealer to show you the Mould and Shade Selector for Trubyte New Hue Vacuum Fired Anteriors . . . this beautiful prosthetic aid belongs at *your* chairside.

THE DENTISTS' SUPPLY COMPANY OF N. Y.

YORK, PENNSYLVANIA